40/ pt. 260-299/990

code of federal regulations

Protection of Environment

40

PARTS 260 TO 299

Revised as of July 1, 1990

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PARTS 260 to 299

Revised as of July 1, 1990

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1985

As of July 1, 1990
Title 40 Parts 190 to 299
Revised as of July 1, 1989
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Title 40 Parts 190 to 259 and
Title 40 Parts 260 to 299

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Table of Contents

Page

Explanation v

Title 40:

Chapter I—Environmental Protection Agency (Continued) (Parts 260 to 299) 3

Finding Aids:

Material Approved for Incorporation by Reference 703

Table of CFR Titles and Chapters 707

Alphabetical List of Agencies Appearing in the CFR 723

Distribution Tables 732

List of CFR Sections Affected 735

Cite this Code: **CFR**

To cite the regulations in this volume use title, part and section number. Thus, 40 CFR 260.1 *refers to title 40, part 260, section 1.*

Explanation

The Code of Federal Regulations is a codification of the general and permanent rules published in the Federal Register by the Executive departments and agencies of the Federal Government. The Code is divided into 50 titles which represent broad areas subject to Federal regulation. Each title is divided into chapters which usually bear the name of the issuing agency. Each chapter is further subdivided into parts covering specific regulatory areas.

ISSUE DATES

Each volume of the Code is revised at least once each calendar year and issued on a quarterly basis approximately as follows:

Title 1 through Title 16	as of January 1
Title 17 through Title 27	as of April 1
Title 28 through Title 41	as of July 1
Title 42 through Title 50	as of October 1

The appropriate revision date is printed on the cover of each volume.

LEGAL STATUS

The contents of the Federal Register are required to be judicially noticed (44 U.S.C. 1507). The Code of Federal Regulations is prima facie evidence of the text of the original documents (44 U.S.C. 1510).

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Each volume of the Code contains amendments published in the Federal Register since the last revision of that volume of the Code. Source citations for the regulations are referred to by volume number and page number of the Federal Register and date of publication. Publication dates and effective dates are usually not the same and care must be exercised by the user in determining the actual effective date. In instances where the effective date is beyond the cut-off date for the Code a note has been inserted to reflect the future effective date. In those instances where a regulation published in the Federal Register states a date certain for expiration, an appropriate note will be inserted following the text.

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The Paperwork Reduction Act of 1980 (Pub. L. 96-511) requires Federal agencies to display an OMB control number with their information collection request. Many agencies have begun publishing numerous OMB control numbers as amendments to existing regulations in the CFR. These OMB numbers are placed as close as possible to the applicable recordkeeping or reporting requirements.

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What is incorporation by reference? Incorporation by reference was established by statute and allows Federal agencies to meet the requirement to publish regulations in the Federal Register by referring to materials already published elsewhere. For an incorporation to be valid, the Director of the Federal Register must approve it. The legal effect of incorporation by reference is that the material is treated as if it were published in full in the Federal Register (5 U.S.C. 552(a)). This material, like any other properly issued regulation, has the force of law.

What is a proper incorporation by reference? The Director of the Federal Register will approve an incorporation by reference only when the requirements of 1 CFR Part 51 are met. Some of the elements on which approval is based are:

(a) The incorporation will substantially reduce the volume of material published in the Federal Register.

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III). A list of CFR Titles, Chapters, and Parts and an alphabetical list of agencies publishing in the CFR are also included in this volume.

An index to the text of "Title 3—The President" is carried within that volume.

The Federal Register Index is issued monthly in cumulative form. This index is based on a consolidation of the "Contents" entries in the daily Federal Register.

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REPUBLICATION OF MATERIAL

There are no restrictions on the republication of material appearing in the Code of Federal Regulations.

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For a summary, legal interpretation, or other explanation of any regulation in this volume, contact the issuing agency. Inquiries concerning editing procedures and reference assistance with respect to the Code of Federal Regulations may be addressed to the Director, Office of the Federal Register, National Archives and Records Administration, Washington, D.C. 20408 (telephone 202-523-3517). Sales are handled exclusively by the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402 (telephone 202-783-3238).

Martha L. Girard,
Director,
Office of the Federal Register.

July 2, 1990.

THIS TITLE

Title 40—PROTECTION OF ENVIRONMENT is composed of fifteen volumes. The parts in these volumes are arranged in the following order: Parts 1-51, Part 52, Parts 53-60, Parts 61-80, Parts 81-85, Parts 86-99, Parts 100-149, Parts 150-189, Parts 190-259, Parts 260-299, Parts 300-399, Parts 400-424, Parts 425-699, Parts 700-789 and Part 790 to End. A derivation table appears in the volume containing Parts 1-51. The contents of these volumes represent all current regulations codified under this title of the CFR as of July 1, 1990.

Chapter I—Environmental Protection Agency appears in all fifteen volumes. A Pesticide Tolerance Commodity/Chemical Index appears in Parts 150-189. A Toxic Substances Chemical—CAS Number Index appears in Parts 700-789 and Part 790 to End. Distribution Tables appear in the volumes containing Parts 100-149, Parts 190-259 and Parts 260-299. Redesignation Tables appear in the volumes containing Parts 1-51, Parts 81-85, Parts 86-99, Parts 150-189, and Parts 700-789. Regulations issued by the Council on Environmental Quality appear in the volume containing Part 790 to End.

For this volume, Kent H. Giles was Chief Editor. The Code of Federal Regulations publication program is under the direction of Richard L. Claypoole, assisted by Alomha S. Morris.

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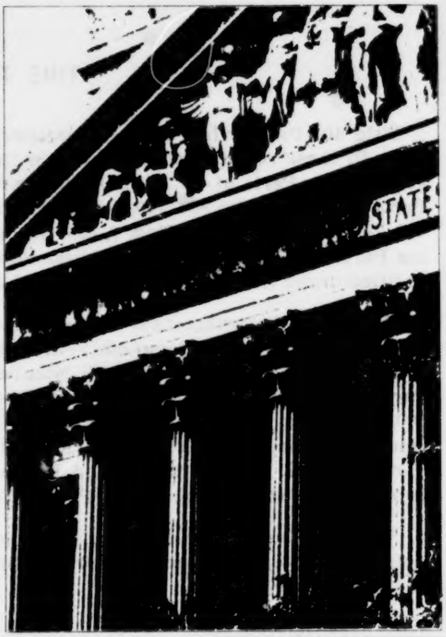

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Title 40—Protection of Environment

(This book contains Parts 260 to 299)

	Part
CHAPTER I—Environmental Protection Agency (Continued).	260

CHAPTER I—ENVIRONMENTAL PROTECTION AGENCY (Continued)

SUBCHAPTER I—SOLID WASTES (CONTINUED)

Part		*Page*
260	Hazardous waste management system: General	4
261	Identification and listing of hazardous waste	27
262	Standards applicable to generators of hazardous waste	123
263	Standards applicable to transporters of hazardous waste	141
264	Standards for owners and operators of hazardous waste treatment, storage, and disposal facilities	145
265	Interim status standards for owners and operators of hazardous waste treatment, storage, and disposal facilities	308
266	Standards for the management of specific hazardous wastes and specific types of hazardous waste management facilities	419
267	Interim standards for owners and operators of new hazardous waste land disposal facilities.	427
268	Land disposal restrictions	435
270	EPA administered permit programs: The Hazardous Waste Permit Program	529
271	Requirements for authorization of State hazardous waste programs	584
272	Approved State hazardous waste management programs	618
280	Technical standards and corrective action requirements for owners and operators of underground storage tanks (UST)	637
281	Approval of state underground storage tank programs	689
282—299	[Reserved]	

SUBCHAPTER I—SOLID WASTES (Continued)

PART 260—HAZARDOUS WASTE MANAGEMENT SYSTEM: GENERAL

Subpart A—General

Sec.
260.1 Purpose, scope, and applicability.
260.2 Availability of information; confidentiality of information.
260.3 Use of number and gender.

Subpart B—Definitions

260.10 Definitions.
260.11 References.

Subpart C—Rulemaking Petitions

260.20 General.
260.21 Petitions for equivalent testing or analytical methods.
260.22 Petitions to amend Part 261 to exclude a waste produced at a particular facility.
260.30 Variances from classification as a solid waste.
260.31 Standards and criteria for variances from classification as a solid waste.
260.32 Variances to be classified as a boiler.
260.33 Procedures for variances from classification as a solid waste or to be classified as a boiler.
260.40 Additional regulation of certain hazardous waste recycling activities on a case-by-case basis.
260.41 Procedures for case-by-case regulation of hazardous waste recycling activities.

APPENDIX I—OVERVIEW OF SUBTITLE C REGULATIONS

AUTHORITY: 42 U.S.C. 6905, 6912(a), 6921-6927, 6930, 6934, 6935, 6937, 6938, 6939, and 6974.

SOURCE: 45 FR 33073, May 19, 1980, unless otherwise noted.

EDITORIAL NOTE: The reporting or recordkeeping provisions included in the final rule published at 47 FR 32274, July 26, 1982, will be submitted for approval to the Office of Management and Budget (OMB), and will not become effective until OMB approval has been obtained. EPA will publish a notice of the effective date of the reporting and recordkeeping provisions of this rule after it obtains OMB approval.

Subpart A—General

§ 260.1 Purpose, scope, and applicability.

(a) This part provides definitions of terms, general standards, and overview information applicable to Parts 260 through 265 and 268 of this chapter.

(b) In this part: (1) Section 260.2 sets forth the rules that EPA will use in making information it receives available to the public and sets forth the requirements that generators, transporters, or owners or operators of treatment, storage, or disposal facilities must follow to assert claims of business confidentiality with respect to information that is submitted to EPA under Parts 260 through 265 and 268 of this chapter.

(2) Section 260.3 establishes rules of grammatical construction for Parts 260 through 265 and 268 of this chapter.

(3) Section 260.10 defines terms which are used in Parts 260 through 265 and 268 of this chapter.

(4) Section 260.20 establishes procedures for petitioning EPA to amend, modify, or revoke any provision of Parts 260 through 265 and 268 of this chapter and establishes procedures governing EPA's action on such petitions.

(5) Section 260.21 establishes procedures for petitioning EPA to approve testing methods as equivalent to those prescribed in Parts 261, 264, or 265 of this chapter.

(6) Section 260.22 establishes procedures for petitioning EPA to amend Subpart D of Part 261 to exclude a waste from a particular facility.

[45 FR 33073, May 19, 1980, as amended at 51 FR 40636, Nov. 7, 1986]

§ 260.2 Availability of information; confidentiality of information.

(a) Any information provided to EPA under Parts 260 through 265 and 268 of this chapter will be made available to the public to the extent and in the manner authorized by the Freedom of Information Act, 5 U.S.C. section 552, section 3007(b) of RCRA and EPA regulations implementing the

Freedom of Information Act and section 3007(b), Part 2 of this chapter, as applicable.

(b) Any person who submits information to EPA in accordance with Parts 260 through 266 and 268 of this chapter may assert a claim of business confidentiality covering part or all of that information by following the procedures set forth in § 2.203(b) of this chapter. Information covered by such a claim will be disclosed by EPA only to the extent, and by means of the procedures, set forth in Part 2, Subpart B, of this chapter except that information required by § 262.53(a) which is submitted in notification of intent to export a hazardous waste will be provided to the Department of State and the appropriate authorities in a receiving country regardless of any claims of confidentiality. However, if no such claim accompanies the information when it is received by EPA, it may be made available to the public without further notice to the person submitting it.

[45 FR 33073, May 19, 1980, as amended at 51 FR 28682, Aug. 8, 1986; 51 FR 40636, Nov. 7, 1986]

§ 260.3 Use of number and gender.

As used in Parts 260 through 265 and 268 of this chapter:

(a) Words in the masculine gender also include the feminine and neuter genders; and

(b) Words in the singular include the plural; and

(c) Words in the plural include the singular.

[45 FR 33073, May 19, 1980, as amended at 51 FR 40636, Nov. 7, 1986]

Subpart B—Definitions

§ 260.10 Definitions.

When used in Parts 260 through 265 and 268 of this chapter, the following terms have the meanings given below:

Above ground tank means a device meeting the definition of "tank" in § 260.10 and that is situated in such a way that the entire surface area of the tank is completely above the plane of the adjacent surrounding surface and the entire surface area of the tank (including the tank bottom) is able to be visually inspected.

Act or *RCRA* means the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended, 42 U.S.C. section 6901 et seq.

Active life of a facility means the period from the initial receipt of hazardous waste at the facility until the Regional Administrator receives certification of final closure.

Active portion means that portion of a facility where treatment, storage, or disposal operations are being or have been conducted after the effective date of Part 261 of this chapter and which is not a closed portion. (See also "closed portion" and "inactive portion".)

Administrator means the Administrator of the Environmental Protection Agency, or his designee.

Ancillary equipment means any device including, but not limited to, such devices as piping, fittings, flanges, valves, and pumps, that is used to distribute, meter, or control the flow of hazardous waste from its point of generation to a storage or treatment tank(s), between hazardous waste storage and treatment tanks to a point of disposal onsite, or to a point of shipment for disposal off-site.

Aquifer means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of ground water to wells or springs.

Authorized representative means the person responsible for the overall operation of a facility or an operational unit (i.e., part of a facility), e.g., the plant manager, superintendent or person of equivalent responsibility.

Boiler means an enclosed device using controlled flame combustion and having the following characteristics:

(1)(i) The unit must have physical provisions for recovering and exporting thermal energy in the form of steam, heated fluids, or heated gases; and

(ii) The unit's combustion chamber and primary energy recovery sections(s) must be of integral design. To be of integral design, the combustion chamber and the primary energy recovery section(s) (such as waterwalls and superheaters) must be physically formed into one manufactured or assembled unit. A unit in which the combustion chamber and the primary energy recovery section(s) are joined only by ducts or connections carrying flue gas is not integrally designed; however, secondary energy recovery equipment (such as economizers or air preheaters) need not be physically formed into the same unit as the combustion chamber and the primary energy recovery section. The following units are not precluded from being boilers solely because they are not of integral design: process heaters (units that transfer energy directly to a process stream), and fluidized bed combustion units; and

(iii) While in operation, the unit must maintain a thermal energy recovery efficiency of at least 60 percent, calculated in terms of the recovered energy compared with the thermal value of the fuel; and

(iv) The unit must export and utilize at least 75 percent of the recovered energy, calculated on an annual basis. In this calculation, no credit shall be given for recovered heat used internally in the same unit. (Examples of internal use are the preheating of fuel or combustion air, and the driving of induced or forced draft fans or feedwater pumps); or

(2) The unit is one which the Regional Administrator has determined, on a case-by-case basis, to be a boiler, after considering the standards in § 260.32.

Certification means a statement of professional opinion based upon knowledge and belief.

Closed portion means that portion of a facility which an owner or operator has closed in accordance with the approved facility closure plan and all applicable closure requirements. (See also "active portion" and "inactive portion".)

Component means either the tank or ancillary equipment of a tank system.

Confined aquifer means an aquifer bounded above and below by impermeable beds or by beds of distinctly lower permeability than that of the aquifer itself; an aquifer containing confined ground water.

Container means any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled.

Contingency plan means a document setting out an organized, planned, and coordinated course of action to be followed in case of a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

Corrosion expert means a person who, by reason of his knowledge of the physical sciences and the principles of engineering and mathematics, acquired by a professional education and related practical experience, is qualified to engage in the practice of corrosion control on buried or submerged metal piping systems and metal tanks. Such a person must be certified as being qualified by the National Association of Corrosion Engineers (NACE) or be a registered professional engineer who has certification or licensing that includes education and experience in corrosion control on buried or submerged metal piping systems and metal tanks.

Designated facility means a hazardous waste treatment, storage, or disposal facility which (1) has received a permit (or interim status) in accordance with the requirements of parts 270 and 124 of this chapter, (2) has received a permit (or interim status) from a State authorized in accordance with part 271 of this chapter, or (3) is regulated under § 261.6(c)(2) or subpart F of part 266 of this chapter, and (4) that has been designated on the manifest by the generator pursuant to § 260.20. If a waste is destined to a facility in an authorized State which has not yet obtained authorization to regulate that particular waste as hazardous, then the designated facility must be a facility allowed by the receiving State to accept such waste.

Dike means an embankment or ridge of either natural or man-made materials used to prevent the movement of liquids, sludges, solids, or other materials.

Discharge or *hazardous waste discharge* means the accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying, or dumping of hazardous waste into or on any land or water.

Disposal means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters.

Disposal facility means a facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which waste will remain after closure.

Elementary neutralization unit means a device which:

(1) Is used for neutralizing wastes that are hazardous only because they exhibit the corrosivity characteristic defined in § 261.22 of this chapter, or they are listed in Subpart D of Part 261 of the chapter only for this reason; and

(2) Meets the definition of tank, tank system, container, transport vehicle, or vessel in § 260.10 of this chapter.

EPA hazardous waste number means the number assigned by EPA to each hazardous waste listed in Part 261, Subpart D, of this chapter and to each characteristic identified in Part 261, Subpart C, of this chapter.

EPA identification number means the number assigned by EPA to each generator, transporter, and treatment, storage, or disposal facility.

EPA region means the states and territories found in any one of the following ten regions:

Region I—Maine, Vermont, New Hampshire, Massachusetts, Connecticut, and Rhode Island.
Region II—New York, New Jersey, Commonwealth of Puerto Rico, and the U.S. Virgin Islands.
Region III—Pennsylvania, Delaware, Maryland, West Virginia, Virginia, and the District of Columbia.
Region IV—Kentucky, Tennessee, North Carolina, Mississippi, Alabama, Georgia, South Carolina, and Florida.
Region V—Minnesota, Wisconsin, Illinois, Michigan, Indiana and Ohio.
Region VI—New Mexico, Oklahoma, Arkansas, Louisiana, and Texas.
Region VII—Nebraska, Kansas, Missouri, and Iowa.
Region VIII—Montana, Wyoming, North Dakota, South Dakota, Utah, and Colorado.
Region IX—California, Nevada, Arizona, Hawaii, Guam, American Samoa, Commonwealth of the Northern Mariana Islands.
Region X—Washington, Oregon, Idaho, and Alaska.

Equivalent method means any testing or analytical method approved by the Administrator under §§ 260.20 and 260.21.

Existing hazardous waste management (HWM) facility or *existing facility* means a facility which was in operation or for which construction commenced on or before November 19, 1980. A facility has commenced construction if:

(1) The owner or operator has obtained the Federal, State and local approvals or permits necessary to begin physical construction; and either

(2)(i) A continuous on-site, physical construction program has begun; or

(ii) The owner or operator has entered into contractual obligations—which cannot be cancelled or modified without substantial loss—for physical construction of the facility to be completed within a reasonable time.

Existing portion means that land surface area of an existing waste management unit, included in the original Part A permit application, on which wastes have been placed prior to the issuance of a permit.

Existing tank system or *existing component* means a tank system or component that is used for the storage or treatment of hazardous waste and that is in operation, or for which installation has commenced on or prior to July 14, 1986. Installation will be considered to have commenced if the owner or operator has obtained all Federal, State, and local approvals or permits necessary to begin physical construction of the site or installation of the tank system and if either (1) a continuous on-site physical construction or installation program has begun, or (2) the owner or operator has entered into contractual obligations—which cannot be canceled or modified without substantial loss—for physical construction of the site or installation of the tank system to be completed within a reasonable time.

Facility means all contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (e.g., one or more landfills, surface impoundments, or combinations of them).

Federal agency means any department, agency, or other instrumentality of the Federal Government, any independent agency or establishment of the Federal Government including any Government corporation, and the Government Printing Office.

Federal, State and local approvals or permits necessary to begin physical construction means permits and approvals required under Federal, State or local hazardous waste control statutes, regulations or ordinances.

Final closure means the closure of all hazardous waste management units at the facility in accordance with all applicable closure requirements so that hazardous waste management activities under Parts 264 and 265 of this chapter are no longer conducted at the facility unless subject to the provisions in § 262.34.

Food-chain crops means tobacco, crops grown for human consumption, and crops grown for feed for animals whose products are consumed by humans.

Free liquids means liquids which readily separate from the solid portion of a waste under ambient temperature and pressure.

Freeboard means the vertical distance between the top of a tank or surface impoundment dike, and the surface of the waste contained therein.

Generator means any person, by site, whose act or process produces hazardous waste identified or listed in Part 261 of this chapter or whose act first causes a hazardous waste to become subject to regulation.

Ground water means water below the land surface in a zone of saturation.

Hazardous waste means a hazardous waste as defined in § 261.3 of this chapter.

Hazardous waste constituent means a constituent that caused the Administrator to list the hazardous waste in Part 261, Subpart D, of this chapter, or a constituent listed in Table 1 of § 261.24 of this chapter.

Hazardous waste management unit is a contiguous area of land on or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of hazardous waste management units include a surface impoundment, a waste pile, a land treatment area, a landfill cell, an incinerator, a tank and its associated piping and underlying containment system and a container storage area. A container alone does not constitute a unit; the unit includes containers and the land or pad upon which they are placed.

In operation refers to a facility which is treating, storing, or disposing of hazardous waste.

Inactive portion means that portion of a facility which is not operated after the effective date of Part 261 of this chapter. (See also "active portion" and "closed portion".)

Incinerator means any enclosed device using controlled flame combustion that neither meets the criteria for classification as a boiler nor is listed as an industrial furnace.

Incompatible waste means a hazardous waste which is unsuitable for:

(1) Placement in a particular device or facility because it may cause corrosion or decay of containment materials (e.g., container inner liners or tank walls); or

(2) Commingling with another waste or material under uncontrolled conditions because the commingling might produce heat or pressure, fire or explosion, violent reaction, toxic dusts, mists, fumes, or gases, or flammable fumes or gases.

(See Part 265, Appendix V, of this chapter for examples.)

Individual generation site means the contiguous site at or on which one or more hazardous wastes are generated. An individual generation site, such as a large manufacturing plant, may have one or more sources of hazardous waste but is considered a single or individual generation site if the site or property is contiguous.

Industrial furnace means any of the following enclosed devices that are integral components of manufacturing processes and that use controlled flame devices to accomplish recovery of materials or energy:

(1) Cement kilns

(2) Lime kilns

(3) Aggregate kilns

(4) Phosphate kilns

(5) Coke ovens

(6) Blast furnaces

(7) Smelting, melting and refining furnaces (including pyrometallurgical devices such as cupolas, reverberator furnaces, sintering machine, roasters, and foundry furnaces)

(8) Titanium dioxide chloride process oxidation reactors

(9) Methane reforming furnaces

(10) Pulping liquor recovery furnaces

(11) Combustion devices used in the recovery of sulfur values from spent sulfuric acid

(12) Such other devices as the Administrator may, after notice and comment, add to this list on the basis of one or more of the following factors:

(i) The design and use of the device primarily to accomplish recovery of material products;

(ii) The use of the device to burn or reduce raw materials to make a material product;

(iii) The use of the device to burn or reduce secondary materials as effective substitutes for raw materials, in processes using raw materials as principal feedstocks;

(iv) The use of the device to burn or reduce secondary materials as ingredients in an industrial process to make a material product;

(v) The use of the device in common industrial practice to produce a material product; and

(vi) Other factors, as appropriate.

Inground tank means a device meeting the definition of "tank" in § 260.10 whereby a portion of the tank wall is situated to any degree within the ground, thereby preventing visual inspection of that external surface area of the tank that is in the ground.

Injection well means a well into which fluids are injected. (See also "underground injection".)

Inner liner means a continuous layer of material placed inside a tank or container which protects the construction materials of the tank or container from the contained waste or reagents used to treat the waste.

Installation inspector means a person who, by reason of his knowledge of the physical sciences and the principles of engineering, acquired by a professional education and related practical experience, is qualified to supervise the installation of tank systems.

International shipment means the transportation of hazardous waste into or out of the jurisdiction of the United States.

Landfill means a disposal facility or part of a facility where hazardous waste is placed in or on land and which is not a pile, a land treatment facility, a surface impoundment, an underground injection well, a salt dome formation, a salt bed formation, an underground mine, or a cave.

Landfill cell means a discrete volume of a hazardous waste landfill which uses a liner to provide isolation of wastes from adjacent cells or wastes. Examples of landfill cells are trenches and pits.

Land treatment facility means a facility or part of a facility at which hazardous waste is applied onto or incorporated into the soil surface; such facilities are disposal facilities if the waste will remain after closure.

Leachate means any liquid, including any suspended components in the liquid, that has percolated through or drained from hazardous waste.

Leak-detection system means a system capable of detecting the failure of either the primary or secondary containment structure or the presence of a release of hazardous waste or accumulated liquid in the secondary containment structure. Such a system must employ operational controls (e.g., daily visual inspections for releases into the secondary containment system of aboveground tanks) or consist of an interstitial monitoring device designed to detect continuously and automatically the failure of the primary or secondary containment structure or the presence of a release of hazardous waste into the secondary containment structure.

Liner means a continuous layer of natural or man-made materials, beneath or on the sides of a surface impoundment, landfill, or landfill cell, which restricts the downward or lateral escape of hazardous waste, hazardous waste constituents, or leachate.

Management or *hazardous waste management* means the systematic control of the collection, source separation, storage, transportation, processing, treatment, recovery, and disposal of hazardous waste.

Manifest means the shipping document EPA form 8700-22 and, if necessary, EPA form 8700-22A, originated and signed by the generator in accordance with the instructions included in the Appendix to Part 262.

Manifest document number means the U.S. EPA twelve digit identification number assigned to the generator plus a unique five digit document number assigned to the Manifest by the generator for recording and reporting purposes.

Mining overburden returned to the mine site means any material overlying an economic mineral deposit which is removed to gain access to that deposit and is then used for reclamation of a surface mine.

Miscellaneous unit means a hazardous waste management unit where hazardous waste is treated, stored, or disposed of and that is not a container, tank, surface impoundment, pile, land treatment unit, landfill, incinerator, boiler, industrial furnace, underground injection well with appropriate technical standards under 40 CFR Part 146, or unit eligible for a research, development, and demonstration permit under § 270.65.

Movement means that hazardous waste transported to a facility in an individual vehicle.

New hazardous waste management facility or *new facility* means a facility which began operation, or for which construction commenced after October 21, 1976. (See also "Existing hazardous waste management facility".)

New tank system or *new tank component* means a tank system or component that will be used for the storage or treatment of hazardous waste and for which installation has commenced after July 14, 1986; except, however, for purposes of § 264.193(g)(2) and § 265.193(g)(2), a new tank system is one for which construction commences after July 14, 1986. (See also "existing tank system.")

On ground tank means a device meeting the definition of "tank" in § 260.10 and that is situated in such a way that the bottom of the tank is on the same level as the adjacent surrounding surface so that the external tank bottom cannot be visually inspected.

On-site means the same or geographically contiguous property which may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a cross-roads intersection, and access is by crossing as opposed to going along, the right-of-way. Non-contiguous properties owned by the same person but connected by a right-of-way which he controls and to which the public does not have access, is also considered on-site property.

Open burning means the combustion of any material without the following characteristics:

(1) Control of combustion air to maintain adequate temperature for efficient combustion,

(2) Containment of the combustion-reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion, and

(3) Control of emission of the gaseous combustion products.

(See also "incineration" and "thermal treatment".)

Operator means the person responsible for the overall operation of a facility.

Owner means the person who owns a facility or part of a facility.

Partial closure means the closure of a hazardous waste management unit in accordance with the applicable closure requirements of Parts 264 and 265 of this chapter at a facility that contains other active hazardous waste management units. For example, partial closure may include the closure of a tank (including its associated piping and underlying containment systems), landfill cell, surface impoundment, waste pile, or other hazardous waste management unit, while other units of the same facility continue to operate.

Person means an individual, trust, firm, joint stock company, Federal Agency, corporation (including a government corporation), partnership, association, State, municipality, commission, political subdivision of a State, or any interstate body.

Personnel or *facility personnel* means all persons who work, at, or oversee the operations of, a hazardous waste facility, and whose actions or failure to act may result in noncompliance with the requirements of Part 264 or 265 of this chapter.

Pile means any non-containerized accumulation of solid, nonflowing hazardous waste that is used for treatment or storage.

Point source means any discernible, confined, and discrete conveyance, including, but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture.

Publicly owned treatment works or *POTW* means any device or system used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature which is owned by a "State" or "municipality" (as defined by section 502(4) of the CWA). This definition includes sewers, pipes, or other conveyances only if they convey wastewater to a POTW providing treatment.

Regional Administrator means the Regional Administrator for the EPA Region in which the facility is located, or his designee.

Representative sample means a sample of a universe or whole (e.g., waste pile, lagoon, ground water) which can be expected to exhibit the average properties of the universe or whole.

Run-off means any rainwater, leachate, or other liquid that drains over land from any part of a facility.

Run-on means any rainwater, leachate, or other liquid that drains over land onto any part of a facility.

Saturated zone or *zone of saturation* means that part of the earth's crust in which all voids are filled with water.

Sludge means any solid, semi-solid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant.

Small Quantity Generator means a generator who generates less than 1000 kg of hazardous waste in a calendar month.

Solid waste means a solid waste as defined in § 261.2 of this chapter.

State means any of the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

Storage means the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed of, or stored elsewhere.

Sump means any pit or reservoir that meets the definition of tank and those troughs/trenches connected to it that serves to collect hazardous waste for transport to hazardous waste storage, treatment, or disposal facilities.

Surface impoundment or *impoundment* means a facility or part of a facility which is a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials), which is designed to hold an accumulation of liquid wastes or wastes containing free liquids, and which is not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds, and lagoons.

Tank means a stationary device, designed to contain an accumulation of hazardous waste which is constructed primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) which provide structural support.

Tank system means a hazardous waste storage or treatment tank and its associated ancillary equipment and containment system.

Thermal treatment means the treatment of hazardous waste in a device which uses elevated temperatures as the primary means to change the chemical, physical, or biological character or composition of the hazardous waste. Examples of thermal treatment processes are incineration, molten salt, pyrolysis, calcination, wet air oxidation, and microwave discharge. (See also "incinerator" and "open burning".)

Totally enclosed treatment facility means a facility for the treatment of hazardous waste which is directly connected to an industrial production process and which is constructed and operated in a manner which prevents the release of any hazardous waste or any constituent thereof into the environment during treatment. An example is a pipe in which waste acid is neutralized.

Transfer facility means any transportation related facility including loading docks, parking areas, storage areas and other similar areas where shipments of hazardous waste are held during the normal course of transportation.

Transport vehicle means a motor vehicle or rail car used for the transportation of cargo by any mode. Each cargo-carrying body (trailer, railroad freight car, etc.) is a separate transport vehicle.

Transportation means the movement of hazardous waste by air, rail, highway, or water.

Transporter means a person engaged in the offsite transportation of hazardous waste by air, rail, highway, or water.

Treatability Study means a study in which a hazardous waste is subjected to a treatment process to determine: (1) Whether the waste is amenable to the treatment process, (2) what pretreatment (if any) is required, (3) the optimal process conditions needed to achieve the desired treatment, (4) the efficiency of a treatment process for a specific waste or wastes, or (5) the characteristics and volumes of residuals from a particular treatment process. Also included in this definition for the purpose of the § 261.4 (e) and (f) exemptions are liner compatibility, corrosion, and other material compatibility studies and toxicological and health effects studies. A "treatability study" is not a means to commercially treat or dispose of hazardous waste.

Treatment means any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste non-hazardous, or less hazardous; safer to transport, store, or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.

Treatment zone means a soil area of the unsaturated zone of a land treatment unit within which hazardous constituents are degraded, transformed, or immobilized.

Underground injection means the subsurface emplacement of fluids through a bored, drilled or driven well; or through a dug well, where the depth of the dug well is greater than the largest surface dimension. (See also "injection well".)

Underground tank means a device meeting the definition of "tank" in § 260.10 whose entire surface area is totally below the surface of and covered by the ground.

Unfit-for use tank system means a tank system that has been determined through an integrity assessment or other inspection to be no longer capable of storing or treating hazardous waste without posing a threat of release of hazardous waste to the environment.

Unsaturated zone or *zone of aeration* means the zone between the land surface and the water table.

United States means the 50 States, the District of Columbia, the Commonwealth of Puerto Rico, the U.S. Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands.

Uppermost aquifer means the geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary.

Vessel includes every description of watercraft, used or capable of being used as a means of transportation on the water.

Wastewater treatment unit means a device which:

(1) Is part of a wastewater treatment facility that is subject to regulation under either section 402 or 307(b) of the Clean Water Act; and

(2) Receives and treats or stores an influent wastewater that is a hazardous waste as defined in § 261.3 of this chapter, or that generates and accumulates a wastewater treatment sludge that is a hazardous waste as defined in § 261.3 of this chapter, or treats or stores a wastewater treatment sludge which is a hazardous waste as defined in § 261.3 of this Chapter; and

(3) Meets the definition of tank or tank system in § 260.10 of this chapter.

Water (bulk shipment) means the bulk transportation of hazardous waste which is loaded or carried on board a vessel without containers or labels.

Well means any shaft or pit dug or bored into the earth, generally of a cylindrical form, and often walled with bricks or tubing to prevent the earth from caving in.

Well injection: (See "underground injection".)

Zone of engineering control means an area under the control of the owner/operator that, upon detection of a hazardous waste release, can be readily cleaned up prior to the release of hazardous waste or hazardous constituents to ground water or surface water.

[45 FR 33073, May 19, 1980]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 260.10, see the List of CFR Sections Affected in the Finding Aids section of this volume.

EFFECTIVE DATE NOTE: At 55 FR 2353, Jan. 23, 1990, § 260.10 was amended by revising the definition of "designated facility," effective July 23, 1990. For the convenience of the reader, the superseded text is set forth as follows:

§ 260.10 Definitions.

* * * * *

Designated facility means a hazardous waste treatment, storage, or disposal facility which has received an EPA permit (or a facility with interim status) in accordance with the requirements of Parts 270 and 124 of this chapter, a permit from a State authorized in accordance with Part 271 of this chapter, or that is regulated under § 261.6(c)(2) or Subpart F of Part 266 of this chapter, and that has been designated on the manifest by the generator pursuant to § 262.20.

* * * * *

§ 260.11 References.

(a) When used in Parts 260 through 270 of this chapter, the following publications are incorporated by reference:

"ASTM Standard Test Methods for Flash Point of Liquids by Setaflash Closed Tester," ASTM Standard D-3278-78, available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

"ASTM Standard Test Methods for Flash Point by Pensky-Martens Closed Tester," ASTM Standard D-93-79 or D-93-80. D-93-80 is available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

"ASTM Standard Method for Analysis of Reformed Gas by Gas Chromatography," ASTM Standard D 1946-82, available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

"ASTM Standard Test Method for Heat of Combustion of Hydrocarbon Fuels by Bomb Calorimeter (High-Precision Method)," ASTM Standard D 2382-83, available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

"ASTM Standard Practices for General Techniques of Ultraviolet-Visible Quantitative Analysis," ASTM Standard E 169-87, available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

"ASTM Standard Practices for General Techniques of Infrared Quantitative Analysis," ASTM Standard E 168-88, available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103

"ASTM Standard Practice for Packed Column Gas Chromatography," ASTM Standard E 260-85, available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

"ASTM Standard Test Method for Aromatics in Light Naphthas and Aviation Gasolines by Gas Chromatography," ASTM Standard D 2267-88, available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

"ASTM Standard Test Method for Vapor Pressure-Temperature Relationship and Initial Decomposition Temperature of Liquids by Isoteriscope," ASTM Standard D 2879-86, available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

"APTI Course 415: Control of Gaseous Emissions," EPA Publication EPA-450/2-81-005, December 1981, available from National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161.

"Flammable and Combustible Liquids Code" (1977 or 1981), available from the National Fire Protection Association, 470 Atlantic Avenue, Boston, MA 02210.

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846 [Second Edition, 1982 as amended by Update I (April 1984), and Update II (April 1985). The Second Edition of SW-846 and Updates I and II are available from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161, (703) 487-4600. The document number is PB87-120-291 and the cost is $48.95 for paper copies and $13.50 for microfiche.

The following 47 analytical testing methods are contained in the Third Edition of "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" EPA Publication SW-846 (November 1986) and its Revision I (December 1987), which are available for the cost of $110.00 from the Government Printing Office, Superintendent of Documents, Washington, DC 20402, (202) 783-3238 (document number 955-001-00000-1): [1]

0010 Modified Method 5 Sampling Train
0020 Source Assessment Sampling System (SASS)
0030 Volatile Organic Sampling Train
1320 Multiple Extraction Procedure
1330 Extraction Procedure for Oily Wastes
3611 Alumina Column Cleanup and Separation of Petroleum Wastes
5040 Protocol for Analysis of Sorbent Cartridges from Volatile Organic Sampling Train
6010 Inductively Coupled Plasma Atomic Emission Spectroscopy
7090 Beryllium (AA, Direct Aspiration)
7091 Beryllium (AA, Furnace Technique)
7198 Chromium, Hexavalent (Differential Pulse Polarography)
7210 Copper (AA, Direct Aspiration)
7211 Copper (AA, Furnace Technique)
7380 Iron (AA, Direct Aspiration)
7381 Iron (AA, Furnace Technique)
7460 Manganese (AA, Direct Aspiration)
7461 Manganese (AA, Furnace Technique)
7550 Osmium (AA, Direct Aspiration)
7770 Sodium (AA, Direct Aspiration)
7840 Thallium (AA, Direct Aspiration)
7841 Thallium (AA, Furnace Technique)
7910 Vanadium (AA, Direct Aspiration)
7911 Vanadium (AA, Furnace Technique)
7950 Zinc (AA, Direct Aspiration)
7951 Zinc (AA, Furnace Technique)
9022 Total Organic Halides (TOX) by Neutron Activation Analysis
9035 Sulfate (Colorimetric, Automated, Chloranilate)
9036 Sulfate (Colorimetric, Automated, Methylthymol Blue, AA II)
9038 Sulfate (Turbidimetric)
9060 Total Organic Carbon
9065 Phenolics (Spectrophotometric, Manual 4-AAP with Distillation)
9066* Phenolics (Colorimetric, Automated 4-AAP with Distillation)
9067 Phenolics (Spectrophotometric, MBTH with Distillation)
9070 Total Recoverable Oil and Grease (Gravimetric, Separatory Funnel Extraction)
9071 Oil and Grease Extraction Method for Sludge Samples
9080 Cation-Exchange Capacity of Soils (Ammonium Acetate)
9081 Cation-Exchange Capacity of Soils (Sodium Acetate)
9100 Saturated Hydraulic Conductivity, Saturated Leachate Conductivity, and Intrinsic Permeability
9131 Total Coliform: Multiple Tube Fermentation Technique
9132 Total Coliform: Membrane Filter Technique
9200 Nitrate
9250 Chloride (Colorimetric, Automated Ferricyanide AAI)
9251 Chloride (Colorimetric, Automated Ferricyanide AAII)
9252 Chloride (Titrimetric, Mercuric Nitrate)
9310 Gross Alpha and Gross Beta
9315 Alpha-Emitting Radium Isotopes
9320 Radium-228

*When Method 9066 is used it must be preceded by the manual distillation specified in procedure 7.1 of Method 9065. Just prior to distillation in Method 9065, adjust the sulfuric acid-preserved sample to pH 4 with 1 + 9 NaOH. After the manual distillation is completed, the autoanalyzer manifold is simplified by connecting the resample line directly to the sampler.

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[1] The Agency notes that, for guidance purposes, the Third Edition and its Revision I supersede the Second Edition and its Updates I and II. However, for regulatory purposes, the Second Edition and Updates I and II remain in effect together with the 47 methods of the Third Edition and its Revision I cited above. See 54 *FR* 40260-40269, September 29, 1989.

(b) The references listed in paragraph (a) of this section are also available for inspection at the Office of the Federal Register, 1100 L Street, NW, Washington, DC 20408. These incorporations by reference were approved by the Director of the Federal Register. These materials are incorporated as they exist on the date of approval and a notice of any change in these materials will be published in the FEDERAL REGISTER.

[46 FR 35247, July 7, 1981, as amended at 50 FR 18374, Apr. 30, 1985; 52 FR 8073, Mar. 16, 1987; 52 FR 41295 Oct. 27, 1987; 55 FR 40266, Sept. 29, 1989; 55 FR 8949, Mar. 9, 1990; 55 FR 25493, June 21, 1990]

EFFECTIVE DATE NOTE: At 55 FR 25493, June 21, 1990, in § 260.11, paragraph (a) was amended by adding the third, fourth, fifth, sixth, seventh, eighth, ninth and tenth references, effective December 21, 1990.

Subpart C—Rulemaking Petitions

§ 260.20 General.

(a) Any person may petition the Administrator to modify or revoke any provision in Parts 260 through 265 and 268 of this chapter. This section sets forth general requirements which apply to all such petitions. Section 260.21 sets forth additional requirements for petitions to add a testing or analytical method to Part 261, 264 or 265. Section 260.22 sets forth additional requirements for petitions to exclude a waste at a particular facility from § 261.3 of this chapter or the lists of hazardous wastes in Subpart D of Part 261.

(b) Each petition must be submitted to the Administrator by certified mail and must include:

(1) The petitioner's name and address;

(2) A statement of the petitioner's interest in the proposed action;

(3) A description of the proposed action, including (where appropriate) suggested regulatory language; and

(4) A statement of the need and justification for the proposed action, including any supporting tests, studies, or other information.

(c) The Administrator will make a tentative decision to grant or deny a petition and will publish notice of such tentative decision, either in the form of an advanced notice of proposed rulemaking, a proposed rule, or a tentative determination to deny the petition, in the FEDERAL REGISTER for written public comment.

(d) Upon the written request of any interested person, the Administrator may, at his discretion, hold an informal public hearing to consider oral comments on the tentative decision. A person requesting a hearing must state the issues to be raised and explain why written comments would not suffice to communicate the person's views. The Administrator may in any case decide on his own motion to hold an informal public hearing.

(e) After evaluating all public comments the Administrator will make a final decision by publishing in the FEDERAL REGISTER a regulatory amendment or a denial of the petition.

[45 FR 33073, May 19, 1980, as amended at 51 FR 40636, Nov. 7, 1986]

§ 260.21 Petitions for equivalent testing or analytical methods.

(a) Any person seeking to add a testing or analytical method to Part 261, 264, or 265 of this chapter may petition for a regulatory amendment under this section and § 260.20. To be successful, the person must demonstrate to the satisfaction of the Administrator that the proposed method is equal to or superior to the corresponding method prescribed in Part 261, 264, or 265 of this chapter, in terms of its sensitivity, accuracy, and precision (i.e., reproducibility).

(b) Each petition must include, in addition to the information required by § 260.20(b):

(1) A full description of the proposed method, including all procedural steps and equipment used in the method;

(2) A description of the types of wastes or waste matrices for which the proposed method may be used;

(3) Comparative results obtained from using the proposed method with those obtained from using the rele-

vant or corresponding methods prescribed in Part 261, 264, or 265 of this chapter;

(4) An assessment of any factors which may interfere with, or limit the use of, the proposed method; and

(5) A description of the quality control procedures necessary to ensure the sensitivity, accuracy and precision of the proposed method.

(c) After receiving a petition for an equivalent method, the Administrator may request any additional information on the proposed method which he may reasonably require to evaluate the method.

(d) If the Administrator amends the regulations to permit use of a new testing method, the method will be incorporated in "Test Methods for the Evaluation of Solid Waste: Physical/Chemical Methods," SW-846, U.S. Environmental Protection Agency, Office of Solid Waste, Washington, DC 20460.

[45 FR 33073, May 19, 1980, as amended at 49 FR 47391, Dec. 4, 1984]

§ 260.22 Petitions to amend Part 261 to exclude a waste produced at a particular facility.

(a) Any person seeking to exclude a waste at a particular generating facility from the lists in Subpart D of Part 261 may petition for a regulatory amendment under this section and § 260.20. To be successful:

(1) The petitioner must demonstrate to the satisfaction of the Administrator that the waste produced by a particular generating facility does not meet any of the criteria under which the waste was listed as a hazardous or an actutely hazardous waste; and

(2) Based on a complete application, the Administrator must determine, where he has a reasonable basis to believe that factors (including additional constituents) other than those for which the waste was listed could cause the waste to be a hazardous waste, that such factors do not warrant retaining the waste as a hazardous waste. A waste which is so excluded, however, still may be a hazardous waste by operation of Subpart C of Part 261.

(b) The procedures in this Section and § 260.20 may also be used to petition the Administrator for a regulatory amendment to exclude from § 261.3(a)(2)(ii) or (c), a waste which is described in these Sections and is either a waste listed in Subpart D, or is derived from a waste listed in Subpart D. This exclusion may only be issued for a particular generating, storage, treatment, or disposal facility. The petitioner must make the same demonstration as required by paragraph (a) of this section. Where the waste is a mixture of solid waste and one or more listed hazardous wastes or is derived from one or more hazardous wastes, this demonstration must be made with respect to the waste mixture as a whole; analyses must be conducted for not only those constituents for which the listed waste contained in the mixture was listed as hazardous, but also for factors (including additional constituents) that could cause the waste mixture to be a hazardous waste. A waste which is so excluded may still be a hazardous waste by operation of Subpart C of Part 261.

(c) If the waste is listed with codes "I", "C", "R", or "E", in Subpart D,

(1) The petitioner must show that the waste does not exhibit the relevant characteristic for which the waste was listed as defined in § 261.21, § 261.22, § 261.23, or § 261.24 using any applicable methods prescribed therein. The petitioner also must show that the waste does not exhibit any of the other characteristics defined in § 261.21, § 261.22, § 261.23, or § 261.24 using any applicable methods prescribed therein;

(2) Based on a complete application, the Administrator must determine, where he has a reasonable basis to believe that factors (including additional constituents) other than those for which the waste was listed could cause the waste to be hazardous waste, that such factors do not warrant retaining the waste as a hazardous waste. A waste which is so excluded, however, still may be a hazardous waste by operation of Subpart C of Part 261.

(d) If the waste is listed with code "T" in Subpart D,

(1) The petitioner must demonstrate that the waste:

(i) Does not contain the constituent or constituents (as defined in Appen-

ix VII of Part 261) that caused the
dministrator to list the waste, using
e appropriate test methods pre-
ribed in Appendix III; or

(ii) Although containing one or more
the hazrdous constituents (as de-
ned in Appendix VII of Part 261)
at caused the Administrator to list
e waste, does not meet the criterion
§ 261.11(a)(3) when considering the
ctors used by the Administrator in
261.11(a)(3) (i) through (xi) under
hich the waste was listed as hazard-
us; and

(2) Based on a complete application,
e Administrator must determine,
here he has a reasonable basis to be-
eve that factors (including additional
nstituents) other than those for
hich the waste was listed could cause
e waste to be a hazardous waste,
at such factors do not warrant re-
ining the waste as a hazardous
aste; and

(3) The petitioner must demonstrate
at the waste does not exhibit any of
e characteristics defined in § 261.21,
261.22, § 261.23, and § 261.24 using
y applicable methods prescribed
erein;

(4) A waste which is so excluded,
owever, still may be a hazardous
aste by operation of Subpart C of
art 261.

(e) If the waste is listed with the
de "H" in Subpart D,

(1) The petitioner must demonstrate
at the waste does not meet the crite-
on of § 261.11(a)(2); and

(2) Based on a complete application,
e Administrator must determine,
here he has a reasonable basis to be-
eve that additional factors (including
ditional constituents) other than
ose for which the waste was listed
uld cause the waste to be a hazard-
s waste, that such factors do not
arrant retaining the waste as a haz-
dous waste; and

(3) The petitioner must demonstrate
at the waste does not exhibit any of
e characteristics defined in § 261.21,
261.22, § 261.23, and § 261.24 using
y applicable methods prescribed
erein;

(4) A waste which is so excluded,
owever, still may be a hazardous
aste by operation of Subpart C of
art 261.

(f) [Reserved for listing radioactive wastes.]

(g) [Reserved for listed infectious wastes.]

(h) Demonstration samples must consist of enough representative samples, but in no case less than four samples, taken over a period of time sufficient to represent the variability or the uniformity of the waste.

(i) Each petition must include, in addition to the information required by § 260.20(b):

(1) The name and address of the laboratory facility performing the sampling or tests of the waste;

(2) The names and qualifications of the persons sampling and testing the waste;

(3) The dates of sampling and testing;

(4) The location of the generating facility;

(5) A description of the manufacturing processes or other operations and feed materials producing the waste and an assessment of whether such processes, operations, or feed materials can or might produce a waste that is not covered by the demonstration;

(6) A description of the waste and an estimate of the average and maximum monthly and annual quantities of waste covered by the demonstration;

(7) Pertinent data on and discussion of the factors delineated in the respective criterion for listing a hazardous waste, where the demonstration is based on the factors in § 261.11(a)(3);

(8) A description of the methodologies and equipment used to obtain the representative samples;

(9) A description of the sample handling and preparation techniques, including techniques used for extraction, containerization and preservation of the samples;

(10) A description of the tests performed (including results);

(11) The names and model numbers of the instruments used in performing the tests; and

(12) The following statement signed by the generator of the waste or his authorized representative:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this demonstration and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(j) After receiving a petition for an exclusion, the Administrator may request any additional information which he may reasonably require to evaluate the petition.

(k) An exclusion will only apply to the waste generated at the individual facility covered by the demonstration and will not apply to waste from any other facility.

(l) The Administrator may exclude only part of the waste for which the demonstration is submitted where he has reason to believe that variability of the waste justifies a partial exclusion.

[45 FR 33073, May 19, 1980, as amended at 50 FR 28742, July 15, 1985; 54 FR 27116, June 27, 1989]

Editorial Note: For information on the availability of a guidance manual for petitions to delist hazardous wastes, see 50 FR 21607, May 28, 1985.

§ 260.30 Variances from classification as a solid waste.

In accordance with the standards and criteria in § 260.31 and the procedures in § 260.33, the Regional Administrator may determine on a case-by-case basis that the following recycled materials are not solid wastes:

(a) Materials that are accumulated speculatively without sufficient amounts being recycled (as defined in § 261.1(c)(8) of this chapter);

(b) Materials that are reclaimed and then reused within the original primary production process in which they were generated;

(c) Materials that have been reclaimed but must be reclaimed further before the materials are completely recovered.

[50 FR 661, Jan. 4, 1985; 50 FR 14219, Apr. 11, 1985]

§ 260.31 Standards and criteria for variances from classification as a solid waste.

(a) The Regional Administrator may grant requests for a variance from classifying as a solid waste those materials that are accumulated speculatively without sufficient amounts being recycled if the applicant demonstrates that sufficient amounts of the material will be recycled or transferred for recycling in the following year. If a variance is granted, it is valid only for the following year, but can be renewed, on an annual basis, by filing a new application. The Regional Administrator's decision will be based on the following standards and criteria:

(1) The manner in which the material is expected to be recycled, when the material is expected to be recycled, and whether this expected disposition is likely to occur (for example, because of past practice, market factors, the nature of the material, or contractual arrangements for recycling);

(2) The reason that the applicant has accumulated the material for one or more years without recycling 75 percent of the volume accumulated at the beginning of the year;

(3) The quantity of material already accumulated and the quantity expected to be generated and accumulated before the material is recycled;

(4) The extent to which the material is handled to minimize loss;

(5) Other relevant factors.

(b) The Regional Administrator may grant requests for a variance from classifying as a solid waste those materials that are reclaimed and then reused as feedstock within the original primary production process in which the materials were generated if the reclamation operation is an essential part of the production process. This determination will be based on the following criteria:

(1) How economically viable the production process would be if it were to use virgin materials, rather than reclaimed materials;

(2) The prevalence of the practice on an industry-wide basis;

(3) The extent to which the material is handled before reclamation to minimize loss;

(4) The time periods between generating the material and its reclamation, and between reclamation and return to the original primary production process;

(5) The location of the reclamation operation in relation to the production process;

(6) Whether the reclaimed material is used for the purpose for which it was originally produced when it is returned to the original process, and whether it is returned to the process in substantially its original form;

(7) Whether the person who generates the material also reclaims it;

(8) Other relevant factors.

(c) The Regional Administrator may grant requests for a variance from classifying as a solid waste those materials that have been reclaimed but must be reclaimed further before recovery is completed if, after initial reclamation, the resulting material is commodity-like (even though it is not yet a commercial product, and has to be reclaimed further). This determination will be based on the following factors:

(1) The degree of processing the material has undergone and the degree of further processing that is required;

(2) The value of the material after it has been reclaimed;

(3) The degree to which the reclaimed material is like an analogous raw material;

(4) The extent to which an end market for the reclaimed material is guaranteed;

(5) The extent to which the reclaimed material is handled to minimize loss;

(6) Other relevant factors.

[50 FR 662, Jan. 4, 1985]

§ 260.32 Variance to be classified as a boiler.

In accordance with the standards and criteria in § 260.10 (definition of "boiler"), and the procedures in § 260.33, the Regional Administrator may determine on a case-by-case basis that certain enclosed devices using controlled flame combustion are boilers, even though they do not otherwise meet the definition of boiler contained in § 260.10, after considering the following criteria:

(a) The extent to which the unit has provisions for recovering and exporting thermal energy in the form of steam, heated fluids, or heated gases; and

(b) The extent to which the combustion chamber and energy recovery equipment are of integral design; and

(c) The efficiency of energy recovery, calculated in terms of the recovered energy compared with the thermal value of the fuel; and

(d) The extent to which exported energy is utilized; and

(e) The extent to which the device is in common and customary use as a "boiler" functioning primarily to produce steam, heated fluids, or heated gases; and

(f) Other factors, as appropriate.

[50 FR 662, Jan. 4, 1985]

§ 260.33 Procedures for variances from classification as a solid waste or to be classified as a boiler.

The Regional Administrator will use the following procedures in evaluating applications for variances from classification as a solid waste or applications to classify particular enclosed flame combustion devices as boilers:

(a) The applicant must apply to the Regional Administrator in the region where the recycler is located. The application must address the relevant criteria contained in § 260.31 or § 260.32 of this part.

(b) The Regional Administrator will evaluate the application and issue a draft notice tentatively granting or denying the application. Notification of this tentative decision will be provided by newspaper advertisement and radio broadcast in the locality where the recycler is located. The Regional Administrator will accept comment on the tentative decision for 30 days, and may also hold a public hearing upon request or at his discretion. The Regional Administrator will issue a final decision after receipt of comments and after the hearing (if any), and this decision may not be appealed to the Administrator.

[50 FR 662, Jan. 4, 1985]

§ 260.40 Additional regulation of certain hazardous waste recycling activities on a case-by-case basis.

(a) The Regional Administrator may decide on a case-by-case basis that persons accumulating or storing the recyclable materials described in § 261.6(a)(2)(iv) of this chapter should be regulated under § 261.6 (b) and (c) of this chapter. The basis for this decision is that the materials are being accumulated or stored in a manner that does not protect human health and the environment because the materials or their toxic constituents have not been adequately contained, or because the materials being accumulated or stored together are incompatible. In making this decision, the Regional Administrator will consider the following factors:

(1) The types of materials accumulated or stored and the amounts accumulated or stored;

(2) The method of accumulation or storage;

(3) The length of time the materials have been accumulated or stored before being reclaimed;

(4) Whether any contaminants are being released into the environment, or are likely to be so released; and

(5) Other relevant factors.

The procedures for this decision are set forth in § 260.41 of this chapter.

[50 FR 662, Jan. 4, 1985]

§ 260.41 Procedures for case-by-case regulation of hazardous waste recycling activities.

The Regional Administrator will use the following procedures when determining whether to regulate hazardous waste recycling activities described in § 261.6(a)(2)(iv) under the provisions of § 261.6 (b) and (c), rather than under the provisions of Subpart F of Part 266 of this chapter.

(a) If a generator is accumulating the waste, the Regional Administrator will issue a notice setting forth the factual basis for the decision and stating that the person must comply with the applicable requirements of Subparts A, C, D, and E of Part 262 of this chapter. The notice will become final within 30 days, unless the person served requests a public hearing to challenge the decision. Upon receiving such a request, the Regional Administrator will hold a public hearing. The Regional Administrator will provide notice of the hearing to the public and allow public participation at the hearing. The Regional Administrator will issue a final order after the hearing stating whether or not compliance with Part 262 is required. The order becomes effective 30 days after service of the decision unless the Regional Administrator specifies a later date or unless review by the Administrator is requested. The order may be appealed to the Administrator by any person who participated in the public hearing. The Administrator may choose to grant or to deny the appeal. Final Agency action occurs when a final order is issued and Agency review procedures are exhausted.

(b) If the person is accumulating the recyclable material as a storage facility, the notice will state that the person must obtain a permit in accordance with all applicable provisions of Parts 270 and 124 of this chapter. The owner or operator of the facility must apply for a permit within no less than 60 days and no more than six months of notice, as specified in the notice. If the owner or operator of the facility wishes to challenge the Regional Administrator's decision, he may do so in his permit application, in a public hearing held on the draft permit, or in comments filed on the draft permit or on the notice of intent to deny the permit. The fact sheet accompanying the permit will specify the reasons for the Agency's determination. The question of whether the Regional Administrator's decision was proper will remain open for consideration during the public comment period discussed under § 124.11 of this chapter and in any subsequent hearing.

[50 FR 663, Jan. 4, 1985]

APPENDIX I—OVERVIEW OF SUBTITLE C REGULATIONS

The Agency believes that there are many people who suspect, but are not sure, that their activities are subject to control under the RCRA Subtitle C rules. This appendix is written for these people. It is designed to help those who are unfamiliar with the hazardous waste control program to determine with which, if any, of the regulations they should comply.

Definition of Solid Waste

The first question which such a person should ask himself is: "Is the material I handle a solid waste?" If the answer to this question is "No", then the material is not subject to control under RCRA and, therefore, the person need not worry about whether he should comply with the Subtitle C rules.

Section 261.2 of this chapter provides a definition of "solid waste" which expands the statutory definition of that term given in section 1004(27) of RCRA. This definition is diagrammed in Figure 1 below.

Figure 1 explains that all materials are either: (1) Garbage refuse, or sludge; (2) solid, liquid, semi-solid or contained gaseous material; or (3) something else. No materials in the third category are solid waste. All materials in the first category are solid waste. Materials in the second category are solid waste unless they are one of the five exclusions specified in § 261.4(a).

Definition of Hazardous Waste

If a person has determined that his material is a "solid waste", the next question he should ask is: "Is the solid waste I handle a hazardous waste?"

Hazardous waste is defined in § 261.3 of this chapter. Section 261.3 provides that, in general, a solid waste is a hazardous waste if: (1) It is, or contains, a hazardous waste listed in Subpart D of Part 261 of this chapter, or (2) the waste exhibits any of the characteristics defined in Subpart C of Part 261. However, Parts 260 and 261 also contain provisions which exclude (§§ 261.4(b), 260.20, and 260.22) certain solid wastes from the definition of "hazardous waste", even though they are listed in Subpart D or exhibit one or more of the characteristics defined in Subpart C. Figure 2 depicts the interplay of these special provisions with the definition of "hazardous waste". It presents a series of questions which a person should ask himself concerning his waste. After doing so, the person should be able to determine if the solid waste he handles is a hazardous waste.

Hazardous Waste Regulations

If this is the case, the person should look at Figure 3. Figure 3 depicts the special provisions specified in the final Part 261 rules for hazardous waste which:

1. Is generated by a small quantity generator
2. Is or is intended to be legitimately and beneficially used, re-used, recycled, or reclaimed
3. Is a sludge; is listed in Part 261, Subpart D; or is a mixture containing a waste listed in Part 261, Subpart D.

For each of these Groups, Figure 3 indicates with which Subtitle C regulations (if any) the person handling these wastes must comply. Figure 3 also explains that, if a person handles hazardous waste which is not included in any one of the above three categories, his waste is subject to the Subtitle C regulations diagrammed in Figure 4.

Figure 4 is a flowchart which identifies the three categories of activities regulated under the Subtitle C rules, and the corresponding set of rules with which people in each of these categories must comply. It points out that all people who handle hazardous waste are either: (1) Generators of hazardous waste, (2) transporters of hazardous waste, (3) owners or operators of hazardous waste treatment, storage, or disposal facilities, or (4) a combination of the above. Figure 4 indicates that all of these people must notify EPA of their hazardous waste activities in accordance with the Section 3010 Notification Procedures (see 45 FR 12746 *et seq.*), and obtain an EPA identification number.

It should be noted that people handling wastes listed in Subpart D of Part 261 who have filed, or who intend to file an application to exempt their waste from regulation under the Subtitle C rules, must also comply with the notification requirements of section 3010.

If a person generates hazardous waste, Figure 4 indicates that he must comply with the Part 262 rules. If he transports it, he must comply with the Part 263 rules. The standards in both these Parts are designed to ensure, among other things, proper recordkeeping and reporting, the use of a manifest system to track shipments of hazardous waste, the use of proper labels and containers, and the delivery of the waste to a permitted treatment, storage, or disposal facility.

If a person owns or operates a facility which treats, stores, or disposes of hazardous waste, the standards with which he must comply depend on a number of factors. First of all, if the owner or operator of a *storage* facility is also the person who generates the waste, and the waste is stored at the facility for less than 90 days for subsequent shipment off-site, then the person must comply with § 262.34 of the Part 262 rules.

All other owners or operators of treatment, storage, or disposal facilities must comply with either the Part 264 or the Part 265 rules. To determine with which of these sets of rules an owner or operator must comply, he must find out whether his facility qualifies for interim status. To qualify, the owner or operator must: (1) Have been treating, storing, or disposing of the hazardous waste, or commenced facility construction on or before October 21, 1976, (2) comply with the section 3010 notification requirements, and (3) apply for a permit under Part 270 of this chapter.

If the owner or operator has done all of the above, he qualifies for interim status, and he must comply with the Part 265 rules. These rules contain administrative requirements, monitoring and closure standards, and an abbreviated set of technical and closure and post-closure cost estimate requirements. The owner or operator must comply with these standards until final administrative disposition of his permit application is made. If a permit is issued to the owner or operator, he must then comply with the permit which will be based on the Part 264 rules.

If the owner or operator has not carried out the above three requirements, he does not qualify for interim status. Until he is issued a permit for his facility, the owner or operator must stop waste management operations (if any) at the facility, and send his hazardous waste (if any) to a facility whose owner or operator has interim status or to a storage facility following the Part 262 rules.

In order to apply for a permit, the owner or operator must comply with the procedures specified in Part 270 of this chapter.

It should be noted that the Agency will be periodically revising the rules depicted in Figures 3 and 4. All persons are encouraged to write to EPA to verify that the regulations which they are reading are up-to-date. To obtain this verification, contact: Solid Waste Information, U.S. Environmental Protection Agency, 26 West St. Clair Street, Cincinnati, Ohio 45268 (513) 684-5362.

FIGURE 1

DEFINITION OF A SOLID WASTE

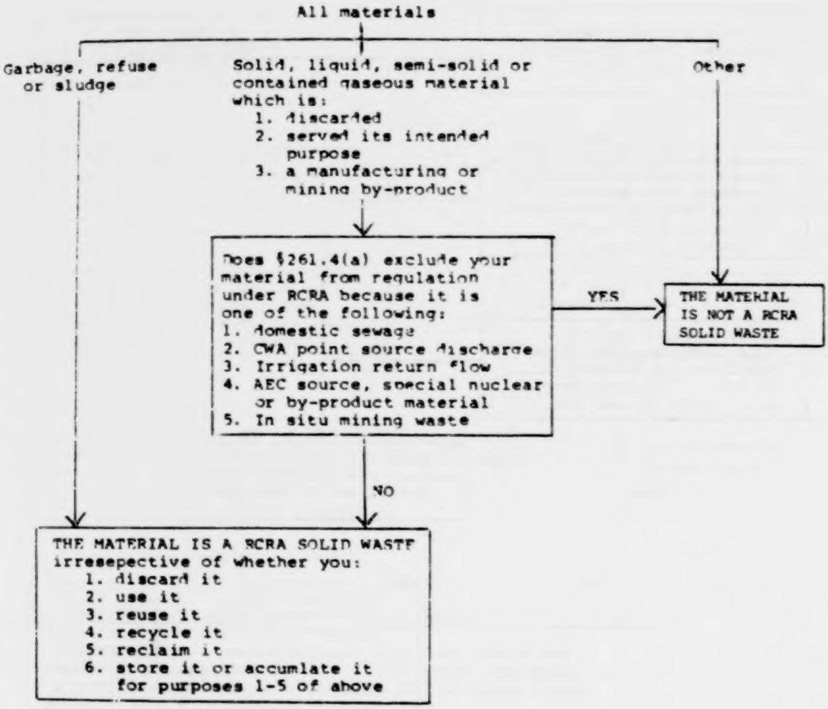

All materials
Garbage, refuse or sludge
Solid, liquid, semi-solid or contained gaseous material which is:
1. discarded
2. served its intended purpose
3. a manufacturing or mining by-product
Other
Does §261.4(a) exclude your material from regulation under RCRA because it is one of the following:
1. domestic sewage
2. CWA point source discharge
3. Irrigation return flow
4. AEC source, special nuclear or by-product material
5. In situ mining waste
YES
THE MATERIAL IS NOT A RCRA SOLID WASTE
NO
THE MATERIAL IS A RCRA SOLID WASTE irresepective of whether you:
1. discard it
2. use it
3. reuse it
4. recycle it
5. reclaim it
6. store it or accumlate it for purposes 1-5 of above

FIGURE 2

DEFINITION OF A HAZARDOUS WASTE

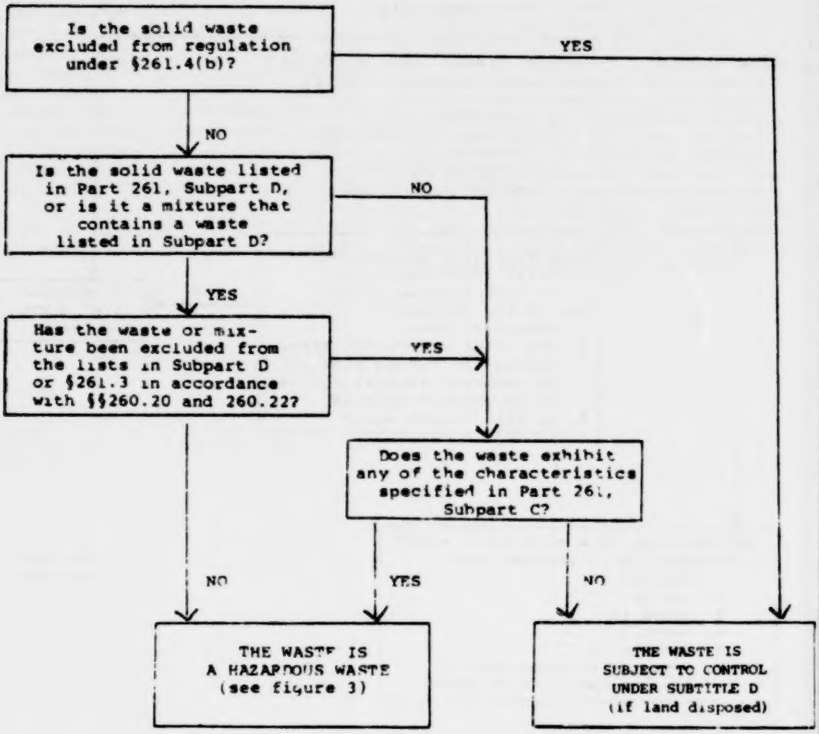

Is the solid waste excluded from regulation under §261.4(b)?
YES
NO
Is the solid waste listed in Part 261, Subpart D, or is it a mixture that contains a waste listed in Subpart D?
NO
YES
Has the waste or mixture been excluded from the lists in Subpart D or §261.3 in accordance with §§260.20 and 260.22?
YES
Does the waste exhibit any of the characteristics specified in Part 261, Subpart C?
NO
YES
NO
THE WASTE IS A HAZARDOUS WASTE (see figure 3)
THE WASTE IS SUBJECT TO CONTROL UNDER SUBTITLE D (if land disposed)

FIGURE 3

SPECIAL PROVISIONS FOR CERTAIN HAZARDOUS WASTE

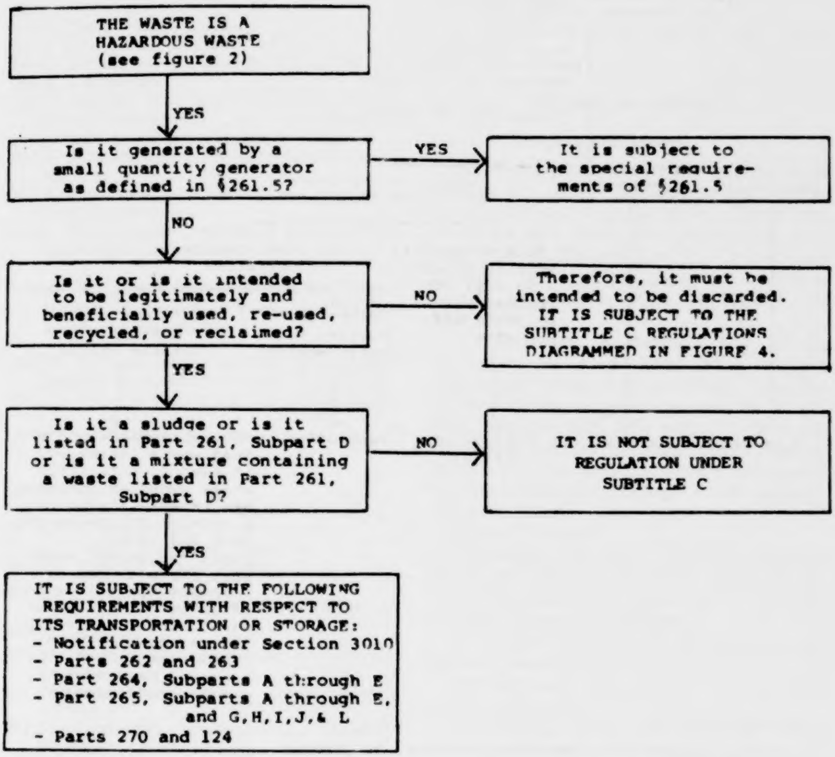
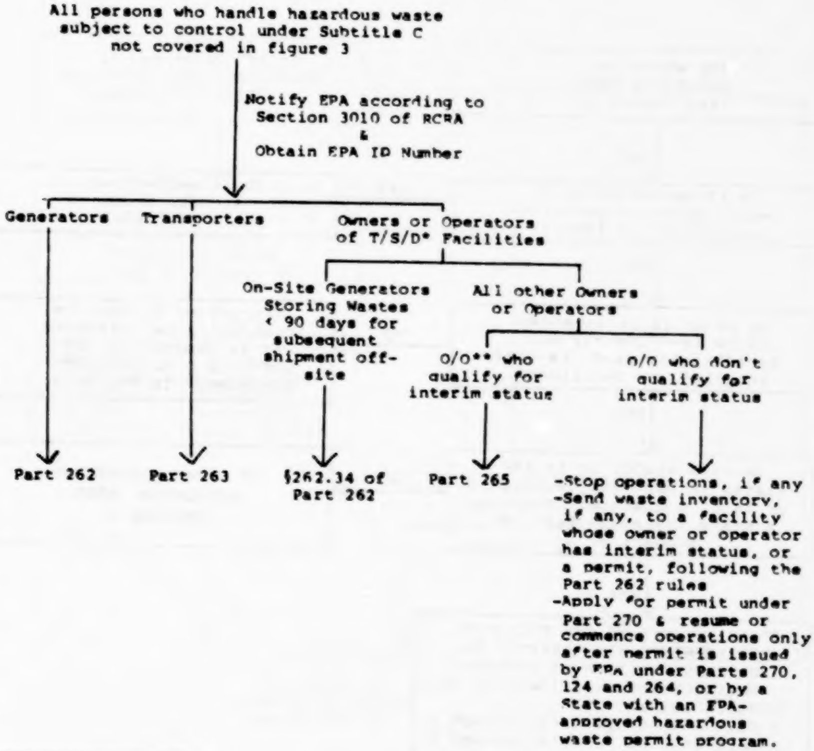

THE WASTE IS A HAZARDOUS WASTE (see figure 2)
YES
Is it generated by a small quantity generator as defined in §261.5?
YES
It is subject to the special requirements of §261.5
NO
Is it or is it intended to be legitimately and beneficially used, re-used, recycled, or reclaimed?
NO
Therefore, it must be intended to be discarded. IT IS SUBJECT TO THE SUBTITLE C REGULATIONS DIAGRAMMED IN FIGURE 4.
YES
Is it a sludge or is it listed in Part 261, Subpart D or is it a mixture containing a waste listed in Part 261, Subpart D?
NO
IT IS NOT SUBJECT TO REGULATION UNDER SUBTITLE C
YES
IT IS SUBJECT TO THE FOLLOWING REQUIREMENTS WITH RESPECT TO ITS TRANSPORTATION OR STORAGE:
- Notification under Section 3010
- Parts 262 and 263
- Part 264, Subparts A through E
- Part 265, Subparts A through E, and G, H, I, J, & L
- Parts 270 and 124

FIGURE 4

REGULATIONS FOR HAZARDOUS WASTE NOT COVERED IN DIAGRAM 3


All persons who handle hazardous waste subject to control under Subtitle C not covered in figure 3
Notify EPA according to Section 3010 of RCRA & Obtain EPA ID Number
Generators
Transporters
Owners or Operators of T/S/D* Facilities
On-Site Generators Storing Wastes < 90 days for subsequent shipment off-site
All other Owners or Operators
O/O** who qualify for interim status
O/O who don't qualify for interim status
Part 262
Part 263
§262.34 of Part 262
Part 265
-Stop operations, if any
-Send waste inventory, if any, to a facility whose owner or operator has interim status, or a permit, following the Part 262 rules
-Apply for permit under Part 270 & resume or commence operations only after permit is issued by EPA under Parts 270, 124 and 264, or by a State with an EPA-approved hazardous waste permit program.

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* T/S/D stands for Treatment, Storage, or Disposal

** O/O stands for Owners or Operators

[45 FR 33073, May 19, 1980, as amended at 48 FR 14293, Apr. 1, 1983]

PART 261—IDENTIFICATION AND LISTING OF HAZARDOUS WASTE

Subpart A—General

Sec.
261.1 Purpose and scope.
261.2 Definition of solid waste.
261.3 Definition of hazardous waste.
261.4 Exclusions.
261.5 Special requirements for hazardous waste generated by conditionally exempt small quantity generators.
261.6 Requirements for recyclable materials.
261.7 Residues of hazardous waste in empty containers.
261.8 PCB wastes regulated under Toxic Substance Control Act.

Subpart B—Criteria for Identifying the Characteristics of Hazardous Waste and for Listing Hazardous Wastes

261.10 Criteria for identifying the characteristics of hazardous waste.
261.11 Criteria for listing hazardous waste.

Subpart C—Characteristics of Hazardous Waste

261.20 General.
261.21 Characteristic of ignitability.
261.22 Characteristic of corrosivity.
261.23 Characteristic of reactivity.
261.24 Toxicity characteristic.

Subpart D—Lists of Hazardous Wastes

261.30 General.
261.31 Hazardous wastes from non-specific sources.
261.32 Hazardous wastes from specific sources.
261.33 Discarded commercial chemical products, off-specification species, container residues, and spill residues thereof.

APPENDICES

APPENDIX I—REPRESENTATIVE SAMPLING METHODS
APPENDIX II—METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)
APPENDIX III—CHEMICAL ANALYSIS TEST METHODS
APPENDIX IV—[RESERVED FOR RADIOACTIVE WASTE TEST METHODS]
APPENDIX V—[RESERVED FOR INFECTIOUS WASTE TREATMENT SPECIFICATIONS]
APPENDIX VI—[RESERVED FOR ETIOLOGIC AGENTS]
APPENDIX VII—BASIS FOR LISTING HAZARDOUS WASTE
APPENDIX VIII—HAZARDOUS CONSTITUENTS
APPENDIX IX—WASTES EXCLUDED UNDER §§ 260.20 AND 260.22
APPENDIX X—METHOD OF ANALYSIS FOR CHORINATED DIBENZO-P-DIOXINS AND -DIBENZOFURANS

AUTHORITY: 42 U.S.C. 6905, 6912(a), 6921, 6922, and 6938.

SOURCE: 45 FR 33119, May 19, 1980, unless otherwise noted.

Subpart A—General

§ 261.1 Purpose and scope.

(a) This part identifies those solid wastes which are subject to regulation as hazardous wastes under Parts 262 through 265, 268, and Parts 270, 271, and 124 of this chapter and which are subject to the notification requirements of section 3010 of RCRA. In this part:

(1) Subpart A defines the terms "solid waste" and "hazardous waste", identifies those wastes which are excluded from regulation under Parts 262 through 266, 268 and 270 and establishes special management requirements for hazardous waste produced by conditionally exempt small quantity generators and hazardous waste which is recycled.

(2) Subpart B sets forth the criteria used by EPA to identify characteristics of hazardous waste and to list particular hazardous wastes.

(3) Subpart C identifies characteristics of hazardous waste.

(4) Subpart D lists particular hazardous wastes.

(b)(1) The definition of solid waste contained in this part applies only to wastes that also are hazardous for purposes of the regulations implementing Subtitle C of RCRA. For example, it does not apply to materials (such as non-hazardous scrap, paper, textiles, or rubber) that are not otherwise hazardous wastes and that are recycled.

(2) This part identifies only some of the materials which are solid wastes and hazardous wastes under sections 3007, 3013, and 7003 of RCRA. A material which is not defined as a solid waste in this part, or is not a hazardous waste identified or listed in this part, is still a solid waste and a hazardous waste for purposes of these sections if:

(i) In the case of sections 3007 and 3013, EPA has reason to believe that the material may be a solid waste within the meaning of section 1004(27) of RCRA and a hazardous waste within the meaning of section 1004(5) of RCRA; or

(ii) In the case of section 7003, the statutory elements are established.

(c) For the purposes of §§ 261.2 and 261.6:

(1) A "spent material" is any material that has been used and as a result of contamination can no longer serve the purpose for which it was produced without processing;

(2) "Sludge" has the same meaning used in § 260.10 of this chapter;

(3) A "by-product" is a material that is not one of the primary products of a production process and is not solely or separately produced by the production process. Examples are process residues such as slags or distillation column bottoms. The term does not include a co-product that is produced for the general public's use and is ordinarily used in the form it is produced by the process.

(4) A material is "reclaimed" if it is processed to recover a usable product, or if it is regenerated. Examples are recovery of lead values from spent batteries and regeneration of spent solvents.

(5) A material is "used or reused" if it is either:

(i) Employed as an ingredient (including use as an intermediate) in an industrial process to make a product (for example, distillation bottoms from one process used as feedstock in another process). However, a material will not satisfy this condition if distinct components of the material are recovered as separate end products (as when metals are recovered from metal-containing secondary materials); or

(ii) Employed in a particular function or application as an effective substitute for a commercial product (for example, spent pickle liquor used as phosphorous precipitant and sludge conditioner in wastewater treatment).

(6) "Scrap metal" is bits and pieces of metal parts (*e.g.,*) bars, turnings, rods, sheets, wire) or metal pieces that may be combined together with bolts or soldering (*e.g.,* radiators, scrap automobiles, railroad box cars), which when worn or superfluous can be recycled.

(7) A material is "recycled" if it is used, reused, or reclaimed.

(8) A material is "accumulated speculatively" if it is accumulated before being recycled. A material is not accumulated speculatively, however, if the person accumulating it can show that the material is potentially recyclable and has a feasible means of being recycled; and that—during the calendar year (commencing on January 1)—the amount of material that is recycled, or transferred to a different site for recycling, equals at least 75 percent by weight or volume of the amount of that material accumulated at the beginning of the period. In calculating the percentage of turnover, the 75 percent requirement is to be applied to each material of the same type (*e.g.,* slags from a single smelting process) that is recycled in the same way (*i.e.,* from which the same material is recovered or that is used in the same way). Materials accumulating in units that would be exempt from regulation under § 261.4(c) are not be included in making the calculation. (Materials that are already defined as solid wastes also are not to be included in making the calculation.) Materials are no longer in this category once they are removed from accumulation for recycling, however.

[45 FR 33119, May 19, 1980, as amended at 48 FR 14293, Apr. 1, 1983; 50 FR 663, Jan. 4, 1985; 51 FR 10174, Mar. 24, 1986; 51 FR 40636, Nov. 7, 1986]

§ 261.2 Definition of solid waste.

(a)(1) A *solid waste* is any discarded material that is not excluded by § 261.4(a) or that is not excluded by variance granted under §§ 260.30 and 260.31.

(2) A *discarded material* is any material which is:

(i) *Abandoned,* as explained in paragraph (b) of this section; or

(ii) *Recycled,* as explained in paragraph (c) of this section; or

(iii) Considered *inherently waste-like,* as explained in paragraph (d) of this section.

(b) Materials are solid waste if they are *abandoned* by being:

(1) Disposed of; or

(2) Burned or incinerated; or

(3) Accumulated, stored, or treated (but not recycled) before or in lieu of being abandoned by being disposed of, burned, or incinerated.

(c) Materials are solid wastes if they are *recycled*—or accumulated, stored, or treated before recycling—as specified in paragraphs (c)(1) through (4) of this section.

(1) *Used in a manner constituting disposal.* (i) Materials noted with a "*" in Column 1 of Table I are solid wastes when they are:

(A) Applied to or placed on the land in a manner that constitutes disposal; or

(B) Used to produce products that are applied to or placed on the land or are otherwise contained in products that are applied to or placed on the land (in which cases the product itself remains a solid waste).

(ii) However, commercial chemical products listed in § 261.33 are not solid wastes if they are applied to the land and that is their ordinary manner of use.

(2) *Burning for energy recovery.* (i) Materials noted with a "*" in column 2 of Table 1 are solid wastes when they are:

(A) Burned to recover energy;

(B) Used to produce a fuel or are otherwise contained in fuels (in which cases the fuel itself remains a solid waste).

(ii) However, commercial chemical products listed in § 261.33 are not solid wastes if they are themselves fuels.

(3) *Reclaimed.* Materials noted with a "*" in column 3 of Table 1 are solid wastes when reclaimed.

(4) *Accumulated speculatively.* Materials noted with a "*" in column 4 of Table 1 are solid wastes when accumulated speculatively.

TABLE 1

	Use constituting disposal (§ 261.2(c)(1)) (1)	Energy recovery/fuel (§ 261.2(c)(2)) (2)	Reclamation (§ 261.2(c)(3)) (3)	Speculative accumulation (§ 261.2(c)(4)) (4)
Spent Materials	(*)	(*)	(*)	(*)
Sludges (listed in 40 CFR Part 261.31 or 261.32)	(*)	(*)	(*)	(*)
Sludges exhibiting a characteristic of hazardous waste	(*)	(*)		(*)
By-products (listed in 40 CFR Part 261.31 or 261.32)	(*)	(*)	(*)	(*)
By-products exhibiting a characteristic of hazardous waste	(*)	(*)		(*)
Commercial chemical products listed in 40 CFR 261.33	(*)	(*)		
Scrap metal	(*)	(*)	(*)	(*)

Note: The terms "spent materials", "sludges", "by-products," and "scrap metal" are defined in § 261.1.

(d) *Inherently waste-like materials.* The following materials are solid wastes when they are recycled in any manner:

(1) Hazardous Waste Nos. F020, F021 (unless used as an ingredient to make a product at the site of generation), F022, F023, F026, and F028.

(2) The Administrator will use the following criteria to add wastes to that list:

(i)(A) The materials are ordinarily disposed of, burned, or incinerated; or

(B) The materials contain toxic constituents listed in Appendix VIII of Part 261 and these constituents are not ordinarily found in raw materials or products for which the materials substitute (or are found in raw materials or products in smaller concentrations) and are not used or reused during the recycling process; and

(ii) The material may pose a substantial hazard to human health and the environment when recycled.

(e) *Materials that are not solid waste when recycled.* (1) Materials are not solid wastes when they can be shown to be recycled by being:

(i) Used or reused as ingredients in an industrial process to make a product, provided the materials are not being reclaimed; or

(ii) Used or reused as effective substitutes for commercial products; or

(iii) Returned to the original process from which they are generated, without first being reclaimed. The material must be returned as a substitute for raw material feedstock, and the process must use raw materials as principal feedstocks.

(2) The following materials are solid wastes, even if the recycling involves use, reuse, or return to the original process (described in paragraphs (e)(1) (i) through (iii) of this section):

(i) Materials used in a manner constituting disposal, or used to produce products that are applied to the land; or

(ii) Materials burned for energy recovery, used to produce a fuel, or contained in fuels; or

(iii) Materials accumulated speculatively; or

(iv) Materials listed in paragraph (d)(1) of this section.

(f) *Documentation of claims that materials are not solid wastes or are conditionally exempt from regulation.* Respondents in actions to enforce regulations implementing Subtitle C of RCRA who raise a claim that a certain material is not a solid waste, or is conditionally exempt from regulation, must demonstrate that there is a known market or disposition for the material, and that they meet the terms of the exclusion or exemption. In doing so, they must provide appropriate documentation (such as contracts showing that a second person uses the material as an ingredient in a production process) to demonstrate that the material is not a waste, or is exempt from regulation. In addition, owners or operators of facilities claiming that they actually are recycling materials must show that they have the necessary equipment to do so.

[50 FR 664, Jan. 4, 1985, as amended at 50 FR 33542, Aug. 20, 1985]

§ 261.3 Definition of hazardous waste.

(a) A solid waste, as defined in § 261.2, is a hazardous waste if:

(1) It is not excluded from regulation as a hazardous waste under § 261.4(b); and

(2) It meets any of the following criteria:

(i) It exhibits any of the characteristics of hazardous waste identified in subpart C except that any mixture of a waste from the extraction, beneficiation, and processing of ores and minerals excluded under § 261.4(b)(7) and any other solid waste exhibiting a characteristic of hazardous waste under subpart C of this part only if it exhibits a characteristic that would not have been exhibited by the excluded waste alone if such mixture had not occurred or if it continues to exhibit any of the characteristics exhibited by the non-excluded wastes prior to mixture. Further, for the purposes of applying the Extraction Procedure Toxicity characteristic to such mixtures, the mixture is also a hazardous waste if it exceeds the maximum concentration for any contaminant listed in table I to § 261.24 that would not have been exceeded by the excluded waste alone if the mixture had not occurred or if it continues to exceed the maximum concentration for any contaminant exceeded by the nonexempt waste prior to mixture.

(ii) It is listed in Subpart D and has not been excluded from the lists in Subpart D under §§ 260.20 and 260.22 of this chapter.

(iii) It is a mixture of a solid waste and a hazardous waste that is listed in subpart D of this part solely because it exhibits one or more of the characteristics of hazardous waste identified in subpart C, unless the resultant mixture no longer exhibits any characteristic of hazardous waste identified in subpart C of this part or unless the solid waste is excluded from regulation under § 261.4(b)(7) and the resultant mixture no longer exhibits any characteristic of hazardous waste identified in subpart C of this part for which the hazardous waste listed in subpart D of this part was listed.

(iv) It is a mixture of solid waste and one or more hazardous wastes listed in Subpart D and has not been excluded from this paragraph under §§ 260.20 and 260.22 of this chapter; however, the following mixtures of solid wastes and hazardous wastes listed in Subpart D are not hazardous wastes (except by application of paragraph (a)(2) (i) or (ii) of this section) if the generator can demonstrate that the

nixture consists of wastewater the dis-
harge of which is subject to regula-
ion under either section 402 or sec-
ion 307(b) of the Clean Water Act (in-
luding wastewater at facilities which
ave eliminated the discharge of
vastewater) and:

(A) One or more of the following
pent solvents listed in § 261.31—
arbon tetrachloride, tetrachloroethy-
ene, trichoroethylene—*Provided,*
'hat the maximum total weekly usage
f these solvents (other than the
mounts that can be demonstrated not
› be discharged to wastewater) divid-
d by the average weekly flow of
vastewater into the headworks of the
acility's wastewater treatment or pre-
reatment system does not exceed 1
art per million; or

(B) One or more of the following
pent solvents listed in § 261.31—meth-
lene chloride, 1,1,1-trichloroethane,
hlorobenzene, o-dichlorobenzene, cre-
ols, cresylic acid, nitrobenzene, tolu-
ne, methyl ethyl ketone, carbon di-
ulfide, isobutanol, pyridine, spent
hlorofluorocarbon solvents—provided
at the maximum total weekly usage
f these solvents (other than the
mounts that can be demonstrated not
› be discharged to wastewater) divid-
d by the average weekly flow of
astewater into the headworks of the
cility's wastewater treatment or pre-
eatment system does not exceed 25
arts per million; or

(C) One of the following wastes
sted in § 261.32—heat exchanger
undle cleaning sludge from the petro-
um refining industry (EPA Hazard-
us Waste No. K050); or

(D) A discarded commercial chemi-
l product, or chemical intermediate
sted in § 261.33, arising from *de mini-
is* losses of these materials from
anufacturing operations in which
ese materials are used as raw mate-
als or are produced in the manufac-
ring process. For purposes of this
bparagraph, "*de minimis*" losses in-
ude those from normal material han-
ing operations (e.g. spills from the
loading or transfer of materials
om bins or other containers, leaks
om pipes, valves or other devices
ed to transfer materials); minor
aks of process equipment, storage
nks or containers; leaks from well-maintained pump packings and seals; sample purgings; relief device discharges; discharges from safety showers and rinsing and cleaning of personal safety equipment; and rinsate from empty containers or from containers that are rendered empty by that rinsing; or

(E) Wastewater resulting from laboratory operations containing toxic (T) wastes listed in Subpart D, *Provided, That* the annualized average flow of laboratory wastewater does not exceed one percent of total wastewater flow into the headworks of the facility's wastewater treatment or pre-treatment system, or provided the wastes, combined annualized average concentration does not exceed one part per million in the headworks of the facility's wastewater treatment or pre-treatment facility. Toxic (T) wastes used in laboratories that are demonstrated not to be discharged to wastewater are not to be included in this calculation.

(b) A solid waste which is not excluded from regulation under paragraph (a)(1) of this section becomes a hazardous waste when any of the following events occur:

(1) In the case of a waste listed in Subpart D, when the waste first meets the listing description set forth in Subpart D.

(2) In the case of a mixture of solid waste and one or more listed hazardous wastes, when a hazardous waste listed in Subpart D is first added to the solid waste.

(3) In the case of any other waste (including a waste mixture), when the waste exhibits any of the characteristics identified in Subpart C.

(c) Unless and until it meets the criteria of paragraph (d):

(1) A hazardous waste will remain a hazardous waste.

(2)(i) Except as otherwise provided in paragraph (c)(2)(ii) of this section, any solid waste generated from the treatment, storage, or disposal of a hazardous waste, including any sludge, spill residue, ash, emission control dust, or leachate (but not including precipitation run-off) is a hazardous waste. (However, materials that are reclaimed from solid wastes and that are used beneficially are not solid wastes and hence are not hazardous wastes under this provision unless the reclaimed material is burned for energy recovery or used in a manner constituting disposal.)

(ii) The following solid wastes are not hazardous even though they are generated from the treatment, storage, or disposal of a hazardous waste, unless they exhibit one or more of the characteristics of hazardous waste: (A) Waste pickle liquor sludge generated by lime stabilization of spent pickle liquor from the iron and steel industry (SIC Codes 331 and 332).

(B) Waste from burning any of the materials exempted from regulation by § 261.6(a)(3) (v) through (ix).

(d) Any solid waste described in paragraph (c) of this section is not a hazardous waste if it meets the following criteria:

(1) In the case of any solid waste, it does not exhibit any of the characteristics of hazardous waste identified in Subpart C.

(2) In the case of a waste which is a listed waste under Subpart D, contains a waste listed under Subpart D or is derived from a waste listed in Subpart D, it also has been excluded from paragraph (c) under §§ 260.20 and 260.22 of this chapter.

[45 FR 33119, May 19, 1980, as amended at 46 FR 56588, Nov. 17, 1981; 50 FR 14219, Apr. 11, 1985; 50 FR 49202, Nov. 29, 1985; 52 FR 11821, Apr. 13, 1987; 54 FR 36641, Sept. 1, 1989]

§ 261.4 Exclusions.

(a) *Materials which are not solid wastes.* The following materials are not solid wastes for the purpose of this part:

(1)(i) Domestic sewage; and

(ii) Any mixture of domestic sewage and other wastes that passes through a sewer system to a publicly-owned treatment works for treatment. "Domestic sewage" means untreated sanitary wastes that pass through a sewer system.

(2) Industrial wastewater discharges that are point source discharges subject to regulation under section 402 of the Clean Water Act, as amended.

[*Comment:* This exclusion applies only to the actual point source discharge. It does not exclude industrial wastewaters while they are being collected, stored or treated
before discharge, nor does it exclude slud
that are generated by industrial wastewa
treatment.]

(3) Irrigation return flows.

(4) Source, special nuclear or b
product material as defined by t
Atomic Energy Act of 1954, as amen
ed, 42 U.S.C. 2011 *et seq.*

(5) Materials subjected to in-si
mining techniques which are not r
moved from the ground as part of t
extraction process.

(6) Pulping liquors (*i.e.*, black liquo
that are reclaimed in a pulping liqu
recovery furnace and then reused
the pulping process, unless it is acc
mulated speculatively as defined
§ 261.1(c) of this chapter.

(7) Spent sulfuric acid used
produce virgin sulfuric acid, unless
is accumulated speculatively as d
fined in § 261.1(c) of this chapter.

(8) Secondary materials that are r
claimed and returned to the origin
process or processes in which th
were generated where they are reus
in the production process provided:

(i) Only tank storage is involved, a
the entire process through completi
of reclamation is closed by being e
tirely connected with pipes or oth
comparable enclosed means of conve
ance;

(ii) Reclamation does not invol
controlled flame combustion (such
occurs in boilers, industrial furnac
or incinerators);

(iii) The secondary materials a
never accumulated in such tanks f
over twelve months without being r
claimed; and

(iv) The reclaimed material is n
used to produce a fuel, or used
produce products that are used in
manner constituting disposal.

(b) *Solid wastes which are not ha*
ardous wastes. The following sol
wastes are not hazardous wastes:

(1) Household waste, includin
household waste that has been collec
ed, transported, stored, treated, di
posed, recovered (e.g., refuse-derive
fuel) or reused. "Household waste
means any material (including ga
bage, trash and sanitary wastes
septic tanks) derived from househol
(including single and multiple res
dences, hotels and motels, bun

houses, ranger stations, crew quarters, campgrounds, picnic grounds and day-use recreation areas). A resource recovery facility managing municipal solid waste shall not be deemed to be treating, storing, disposing of, or otherwise managing hazardous wastes for the purposes of regulation under this subtitle, if such facility:

(i) Receives and burns only

(A) Household waste (from single and multiple dwellings, hotels, motels, and other residential sources) and

(B) Solid waste from commercial or industrial sources that does not contain hazardous waste; and

(ii) Such facility does not accept hazardous wastes and the owner or operator of such facility has established contractual requirements or other appropriate notification or inspection procedures to assure that hazardous wastes are not received at or burned in such facility.

(2) Solid wastes generated by any of the following and which are returned to the soils as fertilizers:

(i) The growing and harvesting of agricultural crops.

(ii) The raising of animals, including animal manures.

(3) Mining overburden returned to the mine site.

(4) Fly ash waste, bottom ash waste, slag waste, and flue gas emission control waste generated primarily from the combustion of coal or other fossil fuels.

(5) Drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil, natural gas or geothermal energy.

(6)(i) Wastes which fail the test for the Toxicity Characteristic because chromium is present or are listed in subpart D due to the presence of chromium, which do not fail the test for the Toxicity Characteristic for any other constituent or are not listed due to the presence of any other constituent, and which do not fail the test for any other characteristic, if it is shown by a waste generator or by waste generators that:

(A) The chromium in the waste is exclusively (or nearly exclusively) trivalent chromium; and

(B) The waste is generated from an industrial process which uses trivalent chromium exlcusively (or nearly exclusively) and the process does not generate hexavalent chromium; and

(C) The waste is typically and frequently managed in non-oxidizing environments.

(ii) Specific wastes which meet the standard in paragraphs (b)(6)(i)(A), (B) and (C) (so long as they do not fail the test for the charactristic of EP toxicity, and do not fail the test for any other characteristic) are:

(A) Chrome (blue) trimmings generated by the following subcategories of the leather tanning and finishing industry; hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(B) Chrome (blue) shavings generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(C) Buffing dust generated by the following subcategories of the leather tanning and finishing industry; hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue.

(D) Sewer screenings generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/crome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(E) Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(F) Wastewater treatment sludes generated by the following subcategories of the leather tanning and finishing industry: Hair pulp/chrome tan/retan/wet finish; hair save/chrome-tan/retan/wet finish; and through-the-blue.

(G) Waste scrap leather from the leather tanning industry, the shoe manufacturing industry, and other leather product manufacturing industries.

(H) Wastewater treatment sludges from the production of TiO_2 pigment using chromium-bearing ores by the chloride process.

(7) Solid waste from the extraction, beneficiation, and processing of ores and minerals (including coal), including phosphate rock and overburden from the mining of uranium ore. For purposes of § 261.4(b)(7), beneficiation of ores and minerals is restricted to the following activities: Crushing; grinding; washing; dissolution; crystallization; filtration; sorting; sizing; drying; sintering; pelletizing; briquetting; calcining to remove water and/or carbon dioxide; roasting, autoclaving, and/or chlorination in preparation for leaching (except where the roasting (and/or autoclaving and/or chlorination)/leaching sequence produces a final or intermediate product that does not undergo further beneficiation or processing); gravity concentration; magnetic separation; electrostatic separation; flotation; ion exchange; solvent extraction; electrowinning; precipitation; amalgamation; and heap, dump, vat, tank, and *in situ* leaching. For the purposes of § 261.4(b)(7), solid waste from the processing of ores and minerals will include only the following wastes, until EPA completes a report to Congress and a regulatory determination on their ultimate regulatory status:

(i) Slag from primary copper processing;

(ii) Slag from primary lead processing;

(iii) Red and brown muds from bauxite refining;

(iv) Phosphogypsum from phosphoric acid production;

(v) Slag from elemental phosphorus production;

(vi) Gasifier ash from coal gasification;

(vii) Process wastewater from coal gasification;

(viii) Calcium sulfate wastewate treatment plant sludge from primar copper processing;

(ix) Slag tailings from primar copper processing;

(x) Fluorogypsum from hydrofluori acid production;

(xi) Process wastewater from hydrofluoric acid production;

(xii) Air pollution control dust/sludge from iron blast furnaces;

(xiii) Iron blast furnace slag;

(xiv) Treated residue from roasting/leaching of chrome ore;

(xv) Process wastewater from primary magnesium processing by the anhydrous process;

(xvi) Process wastewater from phosphoric acid production;

(xvii) Basic oxygen furnace and ope hearth furnace air pollution contro dust/sludge from carbon steel production;

(xviii) Basic oxygen furnace an open hearth furnace slag from carbo steel production;

(xix) Chloride process waste solids from titanium tetrachloride production;

(xx) Slag from primary zinc processing.

(8) Cement kiln dust waste.

(9) Solid waste which consists of discarded wood or wood products which fails the test for the Toxicity Characteristic solely for arsenic and which is not a hazardous waste for any other reason or reasons, if the waste is generated by persons who utilize the arsenical-treated wood and wood products for these materials' intended end use.

(10) Petroleum-contaminated media and debris that fail the test for the Toxicity Characteristic of § 261.24 (Hazardous Waste Codes D018 through D043 only) and are subject to the corrective action regulations under part 280 of this chapter.

(c) Hazardous wastes which are exempted from certain regulations. A hazardous waste which is generated in a product or raw material storage tank, a product or raw material transport vehicle or vessel, a product or raw material pipeline, or in a manufacturing process unit or an associated non-waste-treatment-manufacturing unit, is not subject to regulation under

Parts 262 through 265, 268, 270, 271 and 124 of this chapter or to the notification requirements of section 3010 of RCRA until it exits the unit in which it was generated, unless the unit is a surface impoundment, or unless the hazardous waste remains in the unit more than 90 days after the unit ceases to be operated for manufacturing, or for storage or transportation of product or raw materials.

(d) *Samples.* (1) Except as provided in paragraph (d)(2) of this section, a sample of solid waste or a sample of water, soil, or air, which is collected for the sole purpose of testing to determine its characteristics or composition, is not subject to any requirements of this part or Parts 262 through 268 or Part 270 or Part 124 of this chapter or to the notification requirements of section 3010 of RCRA, when:

(i) The sample is being transported to a laboratory for the purpose of testing; or

(ii) The sample is being transported back to the sample collector after testing; or

(iii) The sample is being stored by the sample collector before transport to a laboratory for testing; or

(iv) The sample is being stored in a laboratory before testing; or

(v) The sample is being stored in a laboratory after testing but before it is returned to the sample collector; or

(vi) The sample is being stored temporarily in the laboratory after testing for a specific purpose (for example, until conclusion of a court case or enforcement action where further testing of the sample may be necessary).

(2) In order to qualify for the exemption in paragraphs (d)(1) (i) and (ii) of this section, a sample collector shipping samples to a laboratory and a laboratory returning samples to a sample collector must:

(i) Comply with U.S. Department of Transportation (DOT), U.S. Postal Service (USPS), or any other applicable shipping requirements; or

(ii) Comply with the following requirements if the sample collector determines that DOT, USPS, or other shipping requirements do not apply to the shipment of the sample:

(A) Assure that the following information accompanies the sample:

(*1*) The sample collector's name, mailing address, and telephone number;

(*2*) The laboratory's name, mailing address, and telephone number;

(*3*) The quantity of the sample;

(*4*) The date of shipment; and

(*5*) A description of the sample.

(B) Package the sample so that it does not leak, spill, or vaporize from its packaging.

(3) This exemption does not apply if the laboratory determines that the waste is hazardous but the laboratory is no longer meeting any of the conditions stated in paragraph (d)(1) of this section.

(e) *Treatability Study Samples.* (1) Except as provided in paragraph (e)(2) of this section, persons who generate or collect samples for the purpose of conducting treatability studies as defined in section 260.10, are not subject to any requirement of Parts 261 through 263 of this chapter or to the notification requirements of Section 3010 of RCRA, nor are such samples included in the quantity determinations of § 261.5 and § 262.34(d) when:

(i) The sample is being collected and prepared for transportation by the generator or sample collector; or

(ii) The sample is being accumulated or stored by the generator or sample collector prior to transportation to a laboratory or testing facility; or

(iii) The sample is being transported to the laboratory or testing facility for the purpose of conducting a treatability study.

(2) The exemption in paragraph (e)(1) of this section is applicable to samples of hazardous waste being collected and shipped for the purpose of conducting treatability studies provided that:

(i) The generator or sample collector uses (in "treatability studies") no more than 1000 kg of any non-acute hazardous waste, 1 kg of acute hazardous waste, or 250 kg of soils, water, or debris contaminated with acute hazardous waste for each process being evaluated for each generated waste stream; and

(ii) The mass of each sample shipment does not exceed 1000 kg of non-acute hazardous waste, 1 kg of acute hazardous waste, or 250 kg of soils, water, or debris contaminated with acute hazardous waste; and

(iii) The sample must be packaged so that it will not leak, spill, or vaporize from its packaging during shipment and the requirements of paragraph A or B of this subparagraph are met.

(A) The transportation of each sample shipment complies with U.S. Department of Transportation (DOT), U.S. Postal Service (USPS), or any other applicable shipping requirements; or

(B) If the DOT, USPS, or other shipping requirements do not apply to the shipment of the sample, the following information must accompany the sample:

(*1*) The name, mailing address, and telephone number of the originator of the sample;

(*2*) The name, address, and telephone number of the facility that will perform the treatability study;

(*3*) The quantity of the sample;

(*4*) The date of shipment; and

(*5*) A description of the sample, including its EPA Hazardous Waste Number.

(iv) The sample is shipped to a laboratory or testing facility which is exempt under § 261.4(f) or has an appropriate RCRA permit or interim status.

(v) The generator or sample collector maintains the following records for a period ending 3 years after completion of the treatability study:

(A) Copies of the shipping documents;

(B) A copy of the contract with the facility conducting the treatability study;

(C) Documentation showing:

(*1*) The amount of waste shipped under this exemption;

(*2*) The name, address, and EPA identification number of the laboratory or testing facility that received the waste;

(*3*) The date the shipment was made; and

(*4*) Whether or not unused samples and residues were returned to the generator.

(vi) The generator reports the information required under paragraph (e)(v)(C) of this section in its biennial report.

(3) The Regional Administrator, or State Director (if located in an authorized State), may grant requests, on a case-by-case basis, for quantity limits in excess of those specified in paragraph (e)(2)(i) of this section, for up to an additional 500 kg of non-acute hazardous waste, 1 kg of acute hazardous waste, and 250 kg of soils, water, or debris contaminated with acute hazardous waste, to conduct further treatability study evaluation when: There has been an equipment or mechanical failure during the conduct of a treatability study; there is a need to verify the results of a previously conducted treatability study; there is a need to study and analyze alternative techniques within a previously evaluated treatment process; or there is a need to do further evaluation of an ongoing treatability study to determine final specifications for treatment. The additional quantities allowed are subject to all the provisions in paragraphs (e)(1) and (e)(2)(ii)(vi) of this section. The generator or sample collector must apply to the Regional Administrator in the Region where the sample is collected and provide in writing the following information:

(i) The reason why the generator or sample collector requires additional quantity of sample for the treatability study evaluation and the additional quantity needed;

(ii) Documentation accounting for all samples of hazardous waste from the waste stream which have been sent for or undergone treatability studies including the data each previous sample from the waste stream was shipped, the quantity of each previous shipment, the laboratory or testing facility to which it was shipped, what treatability study processes were conducted on each sample shipped, and the available results of each treatability study;

(iii) A description of the technical modifications or change in specifications which will be evaluated and the expected results;

(iv) If such further study is being required due to equipment or mechanical failure, the applicant must include information regarding the reason for the failure or breakdown and also include what procedures or equipment improvements have been made to protect against further breakdowns; and

(v) Such other information that the Regional Administrator considers necessary.

(f) *Samples Undergoing Treatability Studies at Laboratories and Testing Facilities.* Samples undergoing treatability studies and the laboratory or testing facility conducting such treatability studies (to the extent such facilities are not otherwise subject to RCRA requirements) are not subject to any requirement of this Part, Part 124, Parts 262-266, 268, and 270, or to the notification requirements of Section 3010 of RCRA provided that the conditions of paragraphs (f) (1) through (11) of this section are met. A mobile treatment unit (MTU) may qualify as a testing facility subject to paragraphs (f) (1) through (11) of this section. Where a group of MTUs are located at the same site, the limitations specified in (f) (1) through (11) of this section apply to the entire group of MTUs collectively as if the group were one MTU.

(1) No less than 45 days before conducting treatability studies, the facility notifies the Regional Administrator, or State Director (if located in an authorized State), in writing that it intends to conduct treatability studies under this paragraph.

(2) The laboratory or testing facility conducting the treatability study has an EPA identification number.

(3) No more than a total of 250 kg of "as received" hazardous waste is subjected to initiation of treatment in all treatability studies in any single day. "As received" waste refers to the waste as received in the shipment from the generator or sample collector.

(4) The quantity of "as received" hazardous waste stored at the facility for the purpose of evaluation in treatability studies does not exceed 1000 kg, the total of which can include 500 kg of soils, water, or debris contaminated with acute hazardous waste or 1 kg of acute hazardous waste. This quantity limitation does not include:

(i) Treatability study residues; and

(ii) Treatment materials (including nonhazardous solid waste) added to "as received" hazardous waste.

(5) No more than 90 days have elapsed since the treatability study for the sample was completed, or no more than one year has elapsed since the generator or sample collector shipped the sample to the laboratory or testing facility, whichever date first occurs.

(6) The treatability study does not involve the placement of hazardous waste on the land or open burning of hazardous waste.

(7) The facility maintains records for 3 years following completion of each study that show compliance with the treatment rate limits and the storage time and quantity limits. The following specific information must be included for each treatability study conducted:

(i) The name, address, and EPA identification number of the generator or sample collector of each waste sample;

(ii) The date the shipment was received;

(iii) The quantity of waste accepted;

(iv) The quantity of "as received" waste in storage each day;

(v) The date the treatment study was initiated and the amount of "as received" waste introduced to treatment each day;

(vi) The date the treatability study was concluded;

(vii) The date any unused sample or residues generated from the treatability study were returned to the generator or sample collector or, if sent to a designated facility, the name of the facility and the EPA identification number.

(8) The facility keeps, on-site, a copy of the treatability study contract and all shipping papers associated with the transport of treatability study samples to and from the facility for a period ending 3 years from the completion date of each treatability study.

(9) The facility prepares and submits a report to the Regional Administrator, or State Director (if located in an authorized State), by March 15 of each year that estimates the number of studies and the amount of waste expected to be used in treatability studies during the current year, and in-

cludes the following information for the previous calendar year:

(i) The name, address, and EPA identification number of the facility conducting the treatability studies;

(ii) The types (by process) of treatability studies conducted;

(iii) The names and addresses of persons for whom studies have been conducted (including their EPA identification numbers);

(iv) The total quantity of waste in storage each day;

(v) The quantity and types of waste subjected to treatability studies;

(vi) When each treatability study was conducted;

(vii) The final disposition of residues and unused sample from each treatability study.

(10) The facility determines whether any unused sample or residues generated by the treatability study are hazardous waste under § 261.3 and, if so, are subject to Parts 261 through 268, and Part 270 of this Chapter, unless the residues and unused samples are returned to the sample originator under the § 261.4(e) exemption.

(11) The facility notifies the Regional Administrator, or State Director (if located in an authorized State), by letter when the facility is no longer planning to conduct any treatability studies at the site.

(Approved by the Office of Management and Budget under control number 2050-0088)

[45 FR 33119, May 19, 1980]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 261.4, see the List of CFR Sections Affected in the Finding Aids section of this volume.

EFFECTIVE DATE NOTE: At 55 FR 2353, Jan. 23, 1990, § 261.4 paragraph (b)(7) was revised, effective July 23, 1990. At 55 FR 11862, Mar. 29, 1990, § 261.4 was amended by revising paragraphs (b)(6)(i) introductory text and (b)(9), and by adding paragraph (b)(10), effective September 25, 1990. At 55 FR 26987, June 29, 1990, paragraph (b)(10) was corrected, effective September 25, 1990. For the convenience of the user, the superseded text is set forth below:

§ 261.4 Exclusions.

(b)* * *

(6)(i) Wastes which fail the test for the characteristic of EP toxicity because chromium is present or are listed in Subpart D due to the presence of chromium, which do not fail the test for the characteristic of EP toxicity for any other constituent or are not listed due to the presence of any other constituent, and which do not fail the text for any other characteristic, if it is shown by a waste generator or by waste generators that:

* * * * *

(7) Solid waste from the extraction, beneficiation, and processing of ores and minerals (including coal), including phosphate rock and overburden from the mining of uranium ore. For purposes of this paragraph, beneficiation of ores and minerals is restricted to the following activities: crushing, grinding, washing, dissolution, crystallization, filtration, sorting, sizing, drying, sintering, pelletizing, briquetting, calcining to remove water and/or carbon dioxide, roasting in preparation for leaching (except where the roasting/leaching sequence produces a final or intermediate product that does not undergo further beneficiation or processing), gravity concentration, magnetic separation, electrostatic separation, floatation, ion exchange, solvent extraction, electrowinning, precipitation, amalgamation, and heap, dump, vat, tank, and *in situ* leaching. For the purposes of this paragraph, solid waste from the processing of ores and minerals includes only:

(i) The following solid wastes from the processing of ores and minerals that are retained within this exclusion:

(A) Slag from primary copper smelting;

(B) Slag from primary lead smelting;

(C) Red and brown muds from bauxite refining;

(D) Phosphogypsum from phosphoric acid production;

(E) Slag from elemental phosphorus production; and

(ii) The following solid wastes from the processing of ores and minerals that are conditionally retained within this exclusion, pending collection and evaluation of additional data:

(A) Roast/leach ore residue from primary chromite production;

(B) Gasifier ash from coal gasification;

(C) Process wastewater from coal gasification;

(D) Slag tailings from primary copper smelting;

(E) Calcium sulfate wastewater treatment plant sludge from primary copper smelting/refining;

(F) Furnace off-gas solids from elemental phosphorus production;

(G)Fluorogypsum from hydrofluoric acid production;

(H) Process wastewater from hydrofluoric acid production;

(I) Air pollution control dust/sludge from iron blast furnaces;

(J) Iron blast furnace slag;

(K) Process wastewater from primary lead production;

(L) Air pollution control dust/sludge from lightweight aggregate production;

(M) Process wastewater from primary magnesium processing by the anhydrous process;

(N) Process wastewater from phosphoric acid production;

(O) Basic oxygen furnace and open hearth furnace slag from carbon steel production;

(P) Basic oxygen furnace and open hearth furnace air pollution control dust/sludge from carbon steel production;

(Q) Sulfate processing waste acids from titanium dioxide production;

(R) Sulfate processing waste solids from titanium dioxide production;

(S) Chloride processing waste solids from titanium tetrachloride production; and

(T) Slag from primary zinc smelting.

* * * * *

(9) Solid waste which consists of discarded wood or wood products which fails the test for the characteristic of EP toxicity and which is not a hazardous waste for any other reason if the waste is generated by persons who utilize the arsenical-treated wood and wood products for these materials' intended end use.

* * * * *

§ 261.5 Special requirements for hazardous waste generated by conditionally exempt small quantity generators.

(a) A generator is a conditionally exempt small quantity generator in a calendar month if he generates no more than 100 kilograms of hazardous waste in that month.

(b) Except for those wastes identified in paragraphs (e), (f), (g), and (j) of this section, a conditionally exempt small quantity generator's hazardous wastes are not subject to regulation under Parts 262 through 266, 268, and Parts 270 and 124 of this chapter, and the notification requirements of section 3010 of RCRA, provided the generator complies with the requirements of paragraphs (f), (g), and (j) of this section.

(c) Hazardous waste that is not subject to regulation or that is subject only to § 262.11, § 262.12, § 262.40(c), and § 262.41 is not included in the quantity determinations of this part and Parts 262 through 266, 268, and 270 and is not subject to any of the requirements of those parts. Hazardous waste that is subject to the requirements of § 261.6 (b) and (c) and Subparts C, D, and F of Part 266 is included in the quantity determination of this part and is subject to the requirements of Parts 262 through 266 and 270.

(d) In determining the quantity of hazardous waste generated, a generator need not include:

(1) Hazardous waste when it is removed from on-site storage; or

(2) Hazardous waste produced by on-site treatment (including reclamation) of his hazardous waste, so long as the hazardous waste that is treated was counted once; or

(3) Spent materials that are generated, reclaimed, and subsequently reused on-site, so long as such spent materials have been counted once.

(e) If a generator generates acute hazardous waste in a calendar month in quantities greater than set forth below, all quantities of that acute hazardous waste are subject to full regulation under Parts 262 through 266, 268, and Parts 270 and 124 of this chapter, and the notification requirements of section 3010 of RCRA:

(1) A total of one kilogram of acute hazardous wastes listed in §§ 261.31, 261.32, or 261.33(e).

(2) A total of 100 kilograms of any residue or contaminated soil, waste, or other debris resulting from the clean-up of a spill, into or on any land or water, of any acute hazardous wastes listed in §§ 261.31, 261.32, or 261.33(e).

[Comment: "Full regulation" means those regulations applicable to generators of greater than 1,000 kg of non-acutely hazardous waste in a calendar month.]

(f) In order for acute hazardous wastes generated by a generator of acute hazardous wastes in quantities equal to or less than those set forth in paragraph (e)(1) or (2) of this section to be excluded from full regulation under this section, the generator must comply with the following requirements:

(1) Section 262.11 of this chapter;

(2) The generator may accumulate acute hazardous waste on-site. If he accumulates at any time acute hazard-

ous wastes in quantities greater than those set forth in paragraph (e)(1) or (e)(2) of this section, all of those accumulated wastes are subject to regulation under Parts 262 through 266, 268, and Parts 270 and 124 of this chapter, and the applicable notification requirements of section 3010 of RCRA. The time period of § 262.34(a) of this chapter, for accumulation of wastes on-site, begins when the accumulated wastes exceed the applicable exclusion limit;

(3) A conditionally exempt small quantity generator may either treat or dispose of his acute hazardous waste in an on-site facility or ensure delivery to an off-site treatment, storage or disposal facility, either of which, if located in the U.S., is:

(i) Permitted under Part 270 of this chapter;

(ii) In interim status under Parts 270 and 265 of this chapter;

(iii) Authorized to manage hazardous waste by a State with a hazardous waste management program approved under Part 271 of this chapter;

(iv) Permitted, licensed, or registered by a State to manage municipal or industrial solid waste; or

(v) A facility which:

(A) Beneficially uses or reuses, or legitimately recycles or reclaims its waste; or

(B) Treats its waste prior to beneficial use or reuse, or legitimate recycling or reclamation.

(g) In order for hazardous waste generated by a conditionally exempt small quantity generator in quantities of less than 100 kilograms of hazardous waste during a calendar month to be excluded from full regulation under this section, the generator must comply with the following requirements:

(1) Section 262.11 of this chapter;

(2) The conditionally exempt small quantity generator may accumulate hazardous waste on-site. If he accumulates at any time more than a total of 1000 kilograms of his hazardous wastes, all of those accumulated wastes are subject to regulation under the special provisions of Part 262 applicable to generators of between 100 kg and 1000 kg of hazardous waste in a calendar month as well as the requirements of Parts 263 through 266, 268, and Parts 270 and 124 of this chapter and the applicable notification requirements of section 3010 of RCRA The time period of § 262.34(d) for accumulation of wastes on-site begins fo a conditionally exempt small quantit generator when the accumulate wastes exceed 1000 kilograms;

(3) A conditionally exempt smal quantity generator may either treat o dispose of his hazardous waste in a on-site facility or ensure delivery to a off-site treatment, storage or disposa facility, either of which, if located i the U.S., is:

(i) Permitted under Part 270 of this chapter;

(ii) In interim status under Parts 270 and 265 of this chapter;

(iii) Authorized to manage hazardous waste by a State with a hazardous waste management program approved under Part 271 of this chapter;

(iv) Permitted, licensed, or registered by a State to manage municipal or industrial solid waste; or

(v) A facility which:

(A) Beneficially uses or reuses, or legitimately recycles or reclaims its waste; or

(B) Treats its waste prior to beneficial use or reuse, or legitimate recycling or reclamation.

(h) Hazardous waste subject to the reduced requirements of this section may be mixed with non-hazardous waste and remain subject to these reduced requirements even though the resultant mixture exceeds the quantity limitations identified in this section, unless the mixture meets any of the characteristics of hazardous waste identified in Subpart C.

(i) If any person mixes a solid waste with a hazardous waste that exceeds a quantity exclusion level of this section, the mixture is subject to full regulation.

(j) If a conditionally exempt small quantity generator's wastes are mixed with used oil, the mixture is subject to Subpart E of Part 266 of this chapter if it is destined to be burned for energy recovery. Any material produced from such a mixture by processing, blending, or other treatment is also so regulated if it is destined to be burned for energy recovery.

[51 FR 10174, Mar. 24, 1986, as amended at 51 FR 28682, Aug. 8, 1986; 51 FR 40637, Nov. 7, 1986; 53 FR 27163, July 19, 1988]

§ 261.6 Requirements for recyclable materials.

(a)(1) Hazardous wastes that are recycled are subject to the requirements for generators, transporters, and storage facilities of paragraphs (b) and (c) of this section, except for the materials listed in paragraphs (a)(2) and (a)(3) of this section. Hazardous wastes that are recycled will be known as "recyclable materials."

(2) The following recyclable materials are not subject to the requirements of this section but are regulated under Subparts C through G of Part 266 of this chapter and all applicable provisions in Parts 270 and 124 of this chapter:

(i) Recyclable materials used in a manner constituting disposal (Subpart C);

(ii) Hazardous wastes burned for energy recovery in boilers and industrial furnaces that are not regulated under Subpart O of Part 264 or 265 of this chapter (Subpart D);

(iii) Used oil that exhibits one or more of the characteristics of hazardous waste and is burned for energy recovery in boilers and industrial furnaces that are not regulated under Subpart O of Part 264 or 265 of this chapter (Subpart E);

(iv) Recyclable materials from which precious metals are reclaimed (Subpart F);

(v) Spent lead-acid batteries that are being reclaimed (Subpart G).

(3) The following recyclable materials are not subject to regulation under Parts 262 through Parts 266 or Parts 268, 270 or 124 of this chapter, and are not subject to the notification requirements of section 3010 of RCRA:

(i) Industrial ethyl alcohol that is reclaimed except that, unless provided otherwise in an international agreement as specified in § 262.58:

(A) A person initiating a shipment for reclamation in a foreign country, and any intermediary arranging for the shipment, must comply with the requirements applicable to a primary exporter in §§ 262.53, 262.56 (a)(1)-(4), (6), and (b), and 262.57, export such materials only upon consent of the receiving country and in conformance with the EPA Acknowledgment of Consent as defined in Subpart E of Part 262, and provide a copy of the EPA Acknowledgment of Consent to the shipment to the transporter transporting the shipment for export;

(B) Transporters transporting a shipment for export may not accept a shipment if he knows the shipment does not conform to the EPA Acknowledgment of Consent, must ensure that a copy of the EPA Acknowledgment of Consent accompanies the shipment and must ensure that it is delivered to the facility designated by the person initiating the shipment.

(ii) Used batteries (or used battery cells) returned to a battery manufacturer for regeneration;

(iii) Used oil that exhibits one or more of the characteristics of hazardous waste but is recycled in some other manner than being burned for energy recovery;

(iv) Scrap metal;

(v) Fuels produced from the refining of oil-bearing hazardous wastes along with normal process streams at a petroleum refining facility if such wastes result from normal petroleum refining, production, and transportation practices;

(vi) Oil reclaimed from hazardous waste resulting from normal petroleum refining, production, and transportation practices, which oil is to be refined along with normal process streams at a petroleum refining facility;

(vii) Coke and coal tar from the iron and steel industry that contains EPA Hazardous Waste No. K087 (Decanter tank tar sludge from coking operations) from the iron and steel production process;

(viii)(A) Hazardous waste fuel produced from oil-bearing hazardous wastes from petroleum refining, production, or transportation practices, or produced from oil reclaimed from such hazardous wastes, where such hazardous wastes are reintroduced into a process that does not use distillation or does not produce products from crude oil so long as the resulting fuel meets the used oil specification under § 266.40(e) of this chapter and so long as no other hazardous wastes are used to produce the hazardous waste fuel;

(B) Hazardous waste fuel produced from oil-bearing hazardous waste from petroleum refining production, and transportation practices, where such hazardous wastes are reintroduced into a refining process after a point at which contaminants are removed, so long as the fuel meets the used oil fuel specification under § 266.40(e) of this chapter; and

(C) Oil reclaimed from oil-bearing hazardous wastes from petroleum refining, production, and transportation practices, which reclaimed oil is burned as a fuel without reintroduction to a refining process, so long as the reclaimed oil meets the used oil fuel specification under § 266.40(e) of this chapter; and

(ix) Petroleum coke produced from petroleum refinery hazardous wastes containing oil at the same facility at which such wastes were generated, unless the resulting coke product exceeds one or more of the characteristics of hazardous waste in Part 261, Subpart C.

(b) Generators and transporters of recyclable materials are subject to the applicable requirements of Parts 262 and 263 of this chapter and the notification requirements under section 3010 of RCRA, except as provided in paragraph (a) of this section.

(c)(1) Owners or operators of facilities that store recyclable materials before they are recycled are regulated under all applicable provisions of subparts A through L, AA, and BB of parts 264 and 265, and under parts 124, 266, 268, and 270 of this chapter and the notification requirements under section 3010 of RCRA, except as provided in paragraph (a) of this section. (The recycling process itself is exempt from regulation except as provided in § 261.6(d).)

(2) Owners or operators of facilities that recycle recyclable materials without storing them before they are recycled are subject to the following requirements, except as provided in paragraph (a) of this section:

(i) Notification requirements under section 3010 of RCRA;

(ii) Sections 265.71 and 265.72 (dealing with the use of the manifest and manifest discrepancies) of this chapter.

(iii) Section 261.6(d) of this chapter.

(d) Owners or operators of facilities subject to RCRA permitting requirements with hazardous waste management units that recycle hazardous wastes are subject to the requirements of subparts AA and BB of part 264 or 265 of this chapter.

[50 FR 49203, Nov. 29, 1985, as amended at 51 FR 28682, Aug. 8, 1986; 51 FR 40637, Nov. 7, 1986; 52 FR 11821, Apr. 13, 1987; 55 FR 25493, June 21, 1990]

Effective Date Note: At 55 FR 25493, June 21, 1990, in § 261.6, paragraph (c)(1) was revised and paragraphs (c)(2)(iii) and (d) were added, effective December 21, 1990. For the convenience of the user the superseded text appears as follows:

§ 261.6 Requirements for recyclable materials.

* * * * *

(c)(1) Owners or operators of facilities that store recyclable materials before they are recycled are regulated under all applicable provisions of Subparts A through L of Parts 264 and 265, and under Parts 124, 266, 268, and 270 of this Chapter and the notification requirements under section 3010 of RCRA, except as provided in paragraph (a) of this section. (The recycling process itself is exempt from regulation.)

* * * * *

§ 261.7 Residues of hazardous waste in empty containers.

(a)(1) Any hazardous waste remaining in either (i) an empty container or (ii) an inner liner removed from an empty container, as defined in paragraph (b) of this section, is not subject to regulation under Parts 261 through 265, or Part 268, 270 or 124 of this chapter or to the notification requirements of section 3010 of RCRA.

(2) Any hazardous waste in either (i) a container that is not empty or (ii) an inner liner removed from a container that is not empty, as defined in paragraph (b) of this section, is subject to regulation under Parts 261 through 265, and Parts 268, 270 and 124 of this chapter and to the notification requirements of section 3010 of RCRA.

(b)(1) A container or an inner liner removed from a container that has held any hazardous waste, except a waste that is a compressed gas or that is identified as an acute hazardous waste listed in §§ 261.31, 261.32, or 261.33(e) of this chapter is empty if:

(i) All wastes have been removed that can be removed using the practices commonly employed to remove materials from that type of container, *e.g.*, pouring, pumping, and aspirating, *and*

(ii) No more than 2.5 centimeters (one inch) of residue remain on the bottom of the container or inner liner, *or*

(iii)(A) No more than 3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is less than or equal to 110 gallons in size, or

(B) No more than 0.3 percent by weight of the total capacity of the container remains in the container or inner liner if the container is greater than 110 gallons in size.

(2) A container that has held a hazardous waste that is a compressed gas is empty when the pressure in the container approaches atmospheric.

(3) A container or an inner liner removed from a container that has held an acute hazardous waste listed in §§ 261.31, 261.32, or 261.33(e) is empty if:

(i) The container or inner liner has been triple rinsed using a solvent capable of removing the commercial chemical product or manufacturing chemical intermediate;

(ii) The container or inner liner has been cleaned by another method that has been shown in the scientific literature, or by tests conducted by the generator, to achieve equivalent removal; or

(iii) In the case of a container, the inner liner that prevented contact of the commercial chemical product or manufacturing chemical intermediate with the container, has been removed.

[45 FR 78529, Nov. 25, 1980, as amended at 47 FR 36097, Aug. 18, 1982; 48 FR 14294, Apr. 1, 1983; 50 FR 1999, Jan. 14, 1985; 51 FR 40637, Nov. 7, 1986]

§ 261.8 PCB wastes regulated under Toxic Substance Control Act.

The disposal of PCB-containing dielectric fluid and electric equipment containing such fluid authorized for use and regulated under part 761 of this chapter and that are hazardous only because they fail the test for the Toxicity Characteristic (Hazardous Waste Codes D018 through D043 only) are exempt from regulation under parts 261 through 265, and parts 268, 270, and 124 of this chapter, and the notification requirements of section 3010 of RCRA.

[55 FR 11862, Mar. 29, 1990]

Effective Date Note: At 55 FR 11862, Mar. 29, 1990, § 261.8 was added, effective September 25, 1990.

Subpart B—Criteria for Identifying the Characteristics of Hazardous Waste and for Listing Hazardous Waste

§ 261.10 Criteria for identifying the characteristics of hazardous waste.

(a) The Administrator shall identify and define a characteristic of hazardous waste in Subpart C only upon determining that:

(1) A solid waste that exhibits the characteristic may:

(i) Cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or

(ii) Pose a substantial present or potential hazard to human health or the environment when it is improperly treated, stored, transported, disposed of or otherwise managed; and

(2) The characteristic can be:

(i) Measured by an available standardized test method which is reasonably within the capability of generators of solid waste or private sector laboratories that are available to serve generators of solid waste; or

(ii) Reasonably detected by generators of solid waste through their knowledge of their waste.

§ 261.11 Criteria for listing hazardous waste.

(a) The Administrator shall list a solid waste as a hazardous waste only upon determining that the solid waste meets one of the following criteria:

(1) It exhibits any of the characteristics of hazardous waste identified in Subpart C.

(2) It has been found to be fatal to humans in low doses or, in the absence of data on human toxicity, it has been shown in studies to have an oral LD 50 toxicity (rat) of less than 50 milligrams per kilogram, an inhalation LC 50 toxicity (rat) of less than 2 milligrams per liter, or a dermal LD 50 toxicity (rabbit) of less than 200 milligrams per kilogram or is otherwise capable of causing or significantly contributing to an increase in serious irreversible, or incapacitating reversible, illness. (Waste listed in accordance with these criteria will be designated Acute Hazardous Waste.)

(3) It contains any of the toxic constituents listed in Appendix VIII and, after considering the following factors, the Administrator concludes that the waste is capable of posing a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported or disposed of, or otherwise managed:

(i) The nature of the toxicity presented by the constituent.

(ii) The concentration of the constituent in the waste.

(iii) The potential of the constituent or any toxic degradation product of the constituent to migrate from the waste into the environment under the types of improper management considered in paragraph (a)(3)(vii) of this section.

(iv) The persistence of the constituent or any toxic degradation product of the constituent.

(v) The potential for the constituent or any toxic degradation product of the constituent to degrade into nonharmful constituents and the rate of degradation.

(vi) The degree to which the constituent or any degradation product of the constituent bioaccumulates in ecosystems.

(vii) The plausible types of improper management to which the waste could be subjected.

(viii) The quantities of the waste generated at individual generation sites or on a regional or national basis.

(ix) The nature and severity of the human health and environmental damage that has occurred as a result of the improper management of wastes containing the constituent.

(x) Action taken by other governmental agencies or regulatory programs based on the health or environmental hazard posed by the waste or waste constituent.

(xi) Such other factors as may be appropriate.

Substances will be listed on Appendix VIII only if they have been shown in scientific studies to have toxic, carcinogenic, mutagenic or teratogenic effects on humans or other life forms.

(Wastes listed in accordance with these criteria will be designated Toxic wastes.)

(b) The Administrator may list classes or types of solid waste as hazardous waste if he has reason to believe that individual wastes, within the class or type of waste, typically or frequently are hazardous under the definition of hazardous waste found in section 1004(5) of the Act.

(c) The Administrator will use the criteria for listing specified in this section to establish the exclusion limits referred to in § 261.5(c).

[45 FR 33119, May 19, 1980, as amended at 55 FR 18726, May 4, 1990]

Subpart C—Characteristics of Hazardous Waste

§ 261.20 General.

(a) A solid waste, as defined in § 261.2, which is not excluded from regulation as a hazardous waste under § 261.4(b), is a hazardous waste if it exhibits any of the characteristics identified in this subpart.

[*Comment*: § 262.11 of this chapter sets forth the generator's responsibility to determine whether his waste exhibits one or more of the characteristics identified in this subpart]

(b) A hazardous waste which is identified by a characteristic in this subpart is assigned every EPA Hazardous Waste Number that is applicable as set forth in this subpart. This number must be in complying with the notification requirements of section 3010 of the Act and all applicable recordkeeping and reporting requirements under parts 262 through 265, 268, and 270 of this chapter.

(c) For purposes of this subpart, the Administrator will consider a sample obtained using any of the applicable sampling methods specified in Appendix I to be a representative sample within the meaning of Part 260 of this chapter.

[*Comment:* Since the Appendix I sampling methods are not being formally adopted by the Administrator, a person who desires to employ an alternative sampling method is not required to demonstrate the equivalency of his method under the procedures set forth in §§ 260.20 and 260.21.]

[45 FR 33119, May 1980, as amended at 51 FR 40636, Nov. 7, 1986; 55 FR 22684, June 1, 1990]

§ 261.21 Characteristic of ignitability.

(a) A solid waste exhibits the characteristic of ignitability if a representative sample of the waste has any of the following properties:

(1) It is a liquid, other than an aqueous solution containing less than 24 percent alcohol by volume and has flash point less than 60°C (140°F), as determined by a Pensky-Martens Closed Cup Tester, using the test method specified in ASTM Standard D-93-79 or D-93-80 (incorporated by reference, see § 260.11), or a Setaflash Closed Cup Tester, using the test method specified in ASTM Standard D-3278-78 (incorporated by reference, see § 260.11), or as determined by an equivalent test method approved by the Administrator under procedures set forth in §§ 260.20 and 260.21.

(2) It is not a liquid and is capable, under standard temperature and pressure, of causing fire through friction, absorption of moisture or spontaneous chemical changes and, when ignited, burns so vigorously and persistently that it creates a hazard.

(3) It is an ignitable compressed gas as defined in 49 CFR 173.300 and as determined by the test methods described in that regulation or equivalent test methods approved by the Administrator under §§ 260.20 and 260.21.

(4) It is an oxidizer as defined in 49 CFR 173.151.

(b) A solid waste that exhibits the characteristic of ignitability has the EPA Hazardous Waste Number of D001.

[45 FR 33119, May 19, 1980, as amended at 46 FR 35247, July 7, 1981; 55 FR 22684, June 1, 1990]

§ 261.22 Characteristic of corrosivity.

(a) A solid waste exhibits the characteristic of corrosivity if a representative sample of the waste has either of the following properties:

(1) It is aqueous and has a pH less than or equal to 2 or greater than or equal to 12.5, as determined by a pH meter using either an EPA test method or an equivalent test method approved by the Administrator under the procedures set forth in §§ 260.20 and 260.21. The EPA test method for pH is specified as Method 5.2 in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (incorporated by reference, see § 260.11).

(2) It is a liquid and corrodes steel (SAE 1020) at a rate greater than 6.35 mm (0.250 inch) per year at a test temperature of 55°C (130°F) as determined by the test method specified in NACE (National Association of Corrosion Engineers) Standard TM-01-69 as standardized in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (incorporated by reference, see § 260.11) or an equivalent test method approved by the Administrator under the procedures set forth in §§ 260.20 and 260.21.

(b) A solid waste that exhibits the characteristic of corrosivity has the EPA Hazardous Waste Number of D002.

[45 FR 33119, May 19, 1980, as amended at 46 FR 35247, July 7, 1981; 55 FR 22684, June 1, 1990]

§ 261.23 Characteristic of reactivity.

(a) A solid waste exhibits the characteristic of reactivity if a representative sample of the waste has *any* of the following properties:

(1) It is normally unstable and readily undergoes violent change without detonating.

(2) It reacts violently with water.

(3) It forms potentially explosive mixtures with water.

(4) When mixed with water, it generates toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.

(5) It is a cyanide or sulfide bearing waste which, when exposed to pH conditions between 2 and 12.5, can generate toxic gases, vapors or fumes in a quantity sufficient to present a danger to human health or the environment.

(6) It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement.

(7) It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure.

(8) It is a forbidden explosive as defined in 49 CFR 173.51, or a Class A explosive as defined in 49 CFR 173.53 or a Class B explosive as defined in 49 CFR 173.88.

(b) A solid waste that exhibits the characteristic of reactivity has the EPA Hazardous Waste Number of D003.

[45 FR 33119, May 19, 1980, as amended at 55 FR 22684, June 1, 1990]

§ 261.24 Toxicity characteristic.

(a) A solid waste exhibits the characteristic of toxicity if, using the test methods described in Appendix II or equivalent methods approved by the Administrator under the procedures set forth in §§ 260.20 and 260.21, the extract from a representative sample of the waste contains any of the contaminants listed in Table 1 at the concentration equal to or greater than the respective value given in that Table. Where the waste contains less than 0.5 percent filterable solids, the waste itself, after filtering using the methodology outlined in Appendix II, is considered to be the extract for the purpose of this section.

(b) A solid waste that exhibits the characteristic of toxicity has the EPA Hazardous Waste Number specified in Table I which corresponds to the toxic contaminant causing it to be hazardous.

TABLE 1.—MAXIMUM CONCENTRATION OF CONTAMINANTS FOR THE TOXICITY CHARACTERISTIC

EPA HW No.[1]	Contaminant	CAS No.[2]	Regulatory Level (mg/L)
D004	Arsenic	7440-38-2	5.0
D005	Barium	7440-39-3	100.0
D018	Benzene	71-43-2	0.5
D006	Cadmium	7440-43-9	1.0
D019	Carbon tetrachloride	56-23-5	0.5
D020	Chlordane	57-74-9	0.03
D021	Chlorobenzene	108-90-7	100.0
D022	Chloroform	67-66-3	6.0
D007	Chromium	7440-47-3	5.0.
D023	o-Cresol	95-48-7	[4] 200.0
D024	m-Cresol	108-39-4	[4] 200.0
D025	p-Cresol	106-44-5	[4] 200.0
D026	Cresol		[4] 200.0
D016	2,4-D	94-75-7	10.0
D027	1,4-Dichlorobenzene	106-46-7	7.5
D028	1,2-Dichloroethane	107-06-2	0.5
D029	1,1-Dichloroethylene	75-35-4	0.7
D030	2,4-Dinitrotoluene	121-14-2	[3] 0.13
D012	Endrin	72-20-8	0.02
D031	Heptachlor (and its epoxide)	76-44-8	0.008
D032	Hexachlorobenzene	118-74-1	[3] 0.13
D033	Hexachlorobutadiene	87-68-3	0.5
D034	Hexachloroethane	67-72-1	3.0
D008	Lead	7439-92-1	5.0
D013	Lindane	58-89-9	0.4
D009	Mercury	7439-97-6	0.2
D014	Methoxychlor	72-43-5	10.0
D035	Methyl ethyl ketone	78-93-3	200.0
D036	Nitrobenzene	98-95-3	2.0
D037	Pentrachlorophenol	87-86-5	100.0
D038	Pyridine	110-86-1	[3] 5.0
D010	Selenium	7782-49-2	1.0
D011	Silver	7440-22-4	5.0
D039	Tetrachloroethylene	127-18-4	0.7
D015	Toxaphene	8001-35-2	0.5
D040	Trichloroethylene	79-01-6	0.5
D041	2,4,5-Trichlorophenol	95-95-4	400.0
D042	2,4,6-Trichlorophenol	88-06-2	2.0
D017	2,4,5-TP (Silvex)	93-72-1	1.0
D043	Vinyl chloride	75-01-4	0.2

[1] Hazardous waste number.

[2] Chemical abstracts service number.

[3] Quantitation limit is greater than the calculated regulatory level. The quantitation limit therefore becomes the regulatory level.

[4] If o-, m-, and p-Cresol concentrations cannot be differentiated, the total cresol (D026) concentration is used. The regulatory level of total cresol is 200 mg/l.

[55 FR 11862, Mar. 29, 1990, as amended at 55 FR 22684, June 1, 1990; 55 FR 26987, June 29, 1990]

EFFECTIVE DATE NOTE: At 55 FR 11862, Mar. 29, 1990, § 261.24 was revised, effective September 25, 1990. At 55 FR 26987, June 29, 1990, the entry for "Heptachlor" in Table 1 was corrected, effective September 25, 1990. For the convenience of the user, the superseded text is set forth below:

§ 261.24 Characteristic of EP toxicity.

(a) A solid waste exhibits the characteristic of EP toxicity if, using the test methods described in Appendix II or equivalent methods approved by the Administrator under the procedures set forth in §§ 260.20 and 260.21, the extract from a representative sample of the waste contains any of the contaminants listed in Table I at a concentration equal to or greater than the respective value given in that Table. Where the waste contains less than 0.5 percent filterable solids, the waste itself, after filtering, is considered to be the extract for the purposes of this section.

(b) A solid waste that exhibits the characteristic of EP toxicity, but is not listed as a hazardous waste in Subpart D, has the EPA Hazardous Waste Number specified in Table I which corresponds to the toxic contaminant causing it to be hazardous.

TABLE I—MAXIMUM CONCENTRATION OF CONTAMINANTS FOR CHARACTERISTIC OF EP TOXICITY

EPA hazardous waste number	Contaminant	Maximum concentration (milligrams per liter)
D004	Arsenic	5.0
D005	Barium	100.0
D006	Cadmium	1.0
D007	Chromium	5.0
D008	Lead	5.0
D009	Mercury	0.2
D010	Selenium	1.0
D011	Silver	5.0
D012	Endrin (1,2,3,4,10,10-hexachloro-1,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4-endo, endo-5,8-dimethano-naphthalene.	0.02
D013	Lindane (1,2,3,4,5,6-hexa- chlorocyclohexane, gamma isomer.	0.4
D014	Methoxychlor (1,1,1-Trichloro-2,2-bis [p-methoxyphenyl]ethane).	10.0
D015	Toxaphene ($C_{10}H_{10}Cl_8$, Technical chlorinated camphene, 67–69 percent chlorine).	0.5
D016	2,4-D, (2,4-Dichlorophenoxyacetic acid).	10.0
D017	2,4,5-TP Silvex (2,4,5-Trichlorophenoxypropionic acid).	1.0

Subpart D—Lists of Hazardous Wastes

§ 261.30 General.

(a) A solid waste is a hazardous waste if it is listed in this subpart, unless it has been excluded from this list under §§ 260.20 and 260.22.

(b) The Administrator will indicate his basis for listing the classes or types of wastes listed in this subpart by employing one or more of the following Hazard Codes:

Ignitable Waste	(I)
Corrosive Waste	(C)
Reactive Waste	(R)
Toxicity Characteristic Waste	(E)
Acute Hazardous Waste	(H)
Toxic Waste	(T)

Appendix VII identifies the constituent which caused the Administrator to list the waste as a Toxicity Characteristic Waste (E) or Toxic Waste (T) in §§ 261.31 and 261.32.

(c) Each hazardous waste listed in this subpart is assigned an EPA Hazardous Waste Number which precedes the name of the waste. This number must be used in complying with the notification requirements of Section 3010 of the Act and certain recordkeeping and reporting requirements under Parts 262 through 265, 268, and Part 270 of this chapter.

(d) The following hazardous wastes listed in § 261.31 or § 261.32 are subject to the exclusion limits for acutely hazardous wastes established in § 261.5: EPA Hazardous Wastes Nos. FO20, FO21, FO22, FO23, FO26, and FO27.

[45 FR 33119, May 19, 1980, as amended at 48 FR 14294, Apr. 1, 1983; 50 FR 2000, Jan. 14, 1985; 51 FR 40636, Nov. 7, 1986; 55 FR 11863, Mar. 29, 1990]

EFFECTIVE DATE NOTE: At 55 FR 11863, Mar. 29, 1990, § 261.30 paragraph (b) was revised, effective September 25, 1990. For the convenience of the user, the superseded text is set forth below:

§ 261.30 General.

* * * * *

(b) The Administrator will indicate his basis for listing the classes or types of wastes listed in this Subpart by employing one or more of the following Hazard Codes:

Ignitable Waste	(I)
Corrosive Waste	(C)
Reactive Waste	(R)
EP Toxic Waste	(E)

Acute Hazardous Waste	(H)
Toxic Waste	(T)

Appendix VII identifies the constituent which caused the Administrator to list the waste as an EP Toxic Waste (E) or Tox Waste (T) in §§ 261.31 and 261.32.

* * * * *

§ 261.31 Hazardous wastes from non-specific sources.

The following solid wastes are listed hazardous wastes from non-specif sources unless they are excluded under §§ 260.20 and 260.22 and listed in Appe dix IX.

Industry and EPA hazardous waste No.	Hazardous waste	Haz cod
Generic:		
F001	The following spent halogenated solvents used in degreasing: Tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T)
F002	The following spent halogenated solvents: Tetrachloroethylene, methylene chloride trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane, and 1,1,2-trichloroethane, all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004, or F005, and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T)
F003	The following spent non-halogenated solvents: Xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/blends containing, before use, only the above spent non-halogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above non-halogenated solvents, and, a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(I)*
F004	The following spent non-halogenated solvents: Cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T)
F005	The following spent non-halogenated solvents: Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above non-halogenated solvents or those solvents listed in F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(I,T)
F006	Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.	(T)
F007	Spent cyanide plating bath solutions from electroplating operations	(R,
F008	Plating bath residues from the bottom of plating baths from electroplating operations where cyanides are used in the process.	(R,
F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.	(R,
F010	Quenching bath residues from oil baths from metal heat treating operations where cyanides are used in the process.	(R,
F011	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.	(R,
F012	Quenching waste water treatment sludges from metal heat treating operations where cyanides are used in the process.	(T)
F019	Wastewater treatment sludges from the chemical conversion coating of aluminum except from zirconium phosphating in aluminum can washing when such phosphating is an exclusive conversion coating process.	(T)

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
F020	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of Hexachlorophene from highly purified 2,4,5-trichlorophenol.).	(H)
F021	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of pentachlorophenol, or of intermediates used to produce its derivatives.	(H)
F022	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzenes under alkaline conditions.	(H)
F023	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- and tetrachlorophenols. (This listing does not include wastes from equipment used only for the production or use of Hexachlorophene from highly purified 2,4,5-trichlorophenol.).	(H)
F024	Process wastes, including but not limited to, distillation residues, heavy ends, tars, and reactor clean-out wastes, from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution. (This listing does not include wastewaters, wastewater treatment sludges, spent catalysts, and wastes listed in § 261.31 or § 261.32.).	(T)
F025	Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.	(T)
F026	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzene under alkaline conditions.	(H)
F027	Discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. (This listing does not include formulations containing Hexachlorophene sythesized from prepurified 2,4,5-trichlorophenol as the sole component.)	(H)
F028	Residues resulting from the incineration or thermal treatment of soil contaminated with EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027.	(T)
F039	Leachate resulting from the treatment, storage, or disposal of wastes classified by more than one waste code under Subpart D, or from a mixture of wastes classified under Subparts C and D of this part. (Leachate resulting from the management of one or more of the following EPA Hazardous Wastes and no other hazardous wastes retains its hazardous waste code(s): F020, F021, F022, F023, F026, F027, and/or F028.).	(T).

*(I,T) should be used to specify mixtures containing ignitable and toxic constituents.

[46 FR 4617, Jan. 16, 1981]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 261.31, see the List of CFR Sections Affected in the Finding Aids section of this volume.

§ 261.32 Hazardous wastes from specific sources.

The following solid wastes are listed hazardous wastes from specific sources unless they are excluded under §§ 260.20 and 260.22 and listed in Appendix IX.

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
Wood preservation: K001	Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol.	(T)
Inorganic pigments:		
K002	Wastewater treatment sludge from the production of chrome yellow and orange pigments.	(T)
K003	Wastewater treatment sludge from the production of molybdate orange pigments	(T)

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
K004	Wastewater treatment sludge from the production of zinc yellow pigments	(T)
K005	Wastewater treatment sludge from the production of chrome green pigments	(T)
K006	Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated).	(T)
K007	Wastewater treatment sludge from the production of iron blue pigments	(T)
K008	Oven residue from the production of chrome oxide green pigments	(T)
Organic chemicals:		
K009	Distillation bottoms from the production of acetaldehyde from ethylene	(T)
K010	Distillation side cuts from the production of acetaldehyde from ethylene	(T)
K011	Bottom stream from the wastewater stripper in the production of acrylonitrile	(R, T)
K013	Bottom stream from the acetonitrile column in the production of acrylonitrile	(R, T)
K014	Bottoms from the acetonitrile purification column in the production of acrylonitrile	(T)
K015	Still bottoms from the distillation of benzyl chloride	(T)
K016	Heavy ends or distillation residues from the production of carbon tetrachloride	(T)
K017	Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin.	(T)
K018	Heavy ends from the fractionation column in ethyl chloride production	(T)
K019	Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production.	(T)
K020	Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production.	(T)
K021	Aqueous spent antimony catalyst waste from fluoromethanes production	(T)
K022	Distillation bottom tars from the production of phenol/acetone from cumene	(T)
K023	Distillation light ends from the production of phthalic anhydride from naphthalene	(T)
K024	Distillation bottoms from the production of phthalic anhydride from naphthalene	(T)
K025	Distillation bottoms from the production of nitrobenzene by the nitration of benzene	(T)
K026	Stripping still tails from the production of methy ethyl pyridines	(T)
K027	Centrifuge and distillation residues from toluene diisocyanate production	(R, T)
K028	Spent catalyst from the hydrochlorinator reactor in the production of 1,1,1-trichloroethane.	(T)
K029	Waste from the product steam stripper in the production of 1,1,1-trichloroethane	(T)
K030	Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene.	(T)
K083	Distillation bottoms from aniline production	(T)
K085	Distillation or fractionation column bottoms from the production of chlorobenzenes	(T)
K093	Distillation light ends from the production of phthalic anhydride from ortho-xylene	(T)
K094	Distillation bottoms from the production of phthalic anhydride from ortho-xylene	(T)
K095	Distillation bottoms from the production of 1,1,1-trichloroethane	(T)
K096	Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane.	(T)
K103	Process residues from aniline extraction from the production of aniline	(T)
K104	Combined wastewater streams generated from nitrobenzene/aniline production	(T)
K105	Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes.	(T)
K107	Column bottoms from product separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazines.	(C,T)
K108	Condensed column overheads from product separation and condensed reactor vent gases from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	(I,T)
K109	Spent filter cartridges from product purification from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	(T)
K110	Condensed column overheads from intermediate separation from the production of 1,1-dimethylhydrazine (UDMH) from carboxylic acid hydrazides.	(T)
K111	Product washwaters from the production of dinitrotoluene via nitration of toluene	(C,T)
K112	Reaction by-product water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)
K113	Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)
K114	Vicinals from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)
K115	Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)
K116	Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine.	(T)
K117	Wastewater from the reactor vent gas scrubber in the production of ethylene dibromide via bromination of ethene.	(T)
K118	Spent adsorbent solids from purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.	(T)
K136	Still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.	(T)

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
Inorganic chemicals:		
K071	Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used.	(T)
K073	Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production.	(T)
K106	Wastewater treatment sludge from the mercury cell process in chlorine production	(T)
Pesticides:		
K031	By-product salts generated in the production of MSMA and cacodylic acid	(T)
K032	Wastewater treatment sludge from the production of chlordane	(T)
K033	Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane.	(T)
K034	Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane.	(T)
K035	Wastewater treatment sludges generated in the production of creosote	(T)
K036	Still bottoms from toluene reclamation distillation in the production of disulfoton	(T)
K037	Wastewater treatment sludges from the production of disulfoton	(T)
K038	Wastewater from the washing and stripping of phorate production	(T)
K039	Filter cake from the filtration of diethylphosphorodithioic acid in the production of phorate.	(T)
K040	Wastewater treatment sludge from the production of phorate	(T)
K041	Wastewater treatment sludge from the production of toxaphene	(T)
K042	Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T.	(T)
K043	2,6-Dichlorophenol waste from the production of 2,4-D	(T)
K097	Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane.	(T)
K098	Untreated process wastewater from the production of toxaphene	(T)
K099	Untreated wastewater from the production of 2,4-D	(T)
K123	Process wastewater (including supernates, filtrates, and washwaters) from the production of ethylenebisdithiocarbamic acid and its salt.	(T)
K124	Reactor vent scrubber water from the production of ethylenebisdithiocarbamic acid and its salts.	(C, T)
K125	Filtration, evaporation, and centrifugation solids from the production of ethylenebisdithiocarbamic acid and its salts.	(T)
K126	Baghouse dust and floor sweepings in milling and packaging operations from the production or formulation of ethylenebisdithiocarbamic acid and its salts.	(T)
K131	Wastewater from the reactor and spent sulfuric acid from the acid dryer from the production of methyl bromide.	(C, T)
K132	Spent absorbent and wastewater separator solids from the production of methyl bromide.	(T)
Explosives:		
K044	Wastewater treatment sludges from the manufacturing and processing of explosives	(R)
K045	Spent carbon from the treatment of wastewater containing explosives	(R)
K046	Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds.	(T)
K047	Pink/red water from TNT operations	(R)
Petroleum refining:		
K048	Dissolved air flotation (DAF) float from the petroleum refining industry	(T)
K049	Slop oil emulsion solids from the petroleum refining industry	(T)
K050	Heat exchanger bundle cleaning sludge from the petroleum refining industry	(T)
K051	API separator sludge from the petroleum refining industry	(T)
K052	Tank bottoms (leaded) from the petroleum refining industry	(T)
Iron and steel:		
K061	Emission control dust/sludge from the primary production of steel in electric furnaces.	(T)
K062	Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332).	(C,T)
Primary copper:		
K064	Acid plant blowdown slurry/sludge resulting from the thickening of blowdown slurry from primary copper production.	(T)
Primary lead:		
K065	Surface impoundment solids contained in and dredged from surface impoundments at primary lead smelting facilities.	(T)
Primary zinc:		
K066	Sludge from treatment of process wastewater and/or acid plant blowdown from primary zinc production.	(T)
Primary aluminum:		
K088	Spent potliners from primary aluminum reduction	(T)
Ferroalloys:		
K090	Emission control dust or sludge from ferrochromiumsilicon production	(T)
K091	Emission control dust or sludge from ferrochromium production	(T)

Industry and EPA hazardous waste No.	Hazardous waste	Hazard code
Secondary lead:		
K069	Emission control dust/sludge from secondary lead smelting	(T)
K100	Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.	(T)
Veterinary pharmaceuticals:		
K084	Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	(T)
K101	Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	(T)
K102	Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	(T)
Ink formulation:		
K086	Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead.	(T)
Coking:		
K060	Ammonia still lime sludge from coking operations	(T)
K087	Decanter tank tar sludge from coking operations	(T)

[46 FR 4618, Jan. 16, 1981]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 261.32, see the List of CFR Sections Affected in the Finding Aids section of this volume.

EFFECTIVE DATE NOTE: At 55 FR 18505, May 2, 1990, the table in § 261.32 was amended by adding to the subgroup "Organic chemicals" the entries for EPA hazardous waste numbers K107, K108, K109 and K110, effective November 2, 1990.

§ 261.33 Discarded commercial chemical products, off-specification species, container residues, and spill residues thereof.

The following materials or items are hazardous wastes if and when they are discarded or intended to be discarded as described in § 261.2(a)(2)(i), when they are mixed with waste oil or used oil or other material and applied to the land for dust suppression or road treatment, when they are otherwise applied to the land in lieu of their original intended use or when they are contained in products that are applied to the land in lieu of their original intended use, or when, in lieu of their original intended use, they are produced for use as (or as a component of) a fuel, distributed for use as a fuel, or burned as a fuel.

(a) Any commercial chemical product, or manufacturing chemical intermediate having the generic name listed in paragraph (e) or (f) of this section.

(b) Any off-specification commercial chemical product or manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraph (e) or (f) of this section.

(c) Any residue remaining in a container or in an inner liner removed from a container that has held any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraphs (e) or (f) of this section, unless the container is empty as defined in § 261.7(b) of this chapter.

[*Comment:* Unless the residue is being beneficially used or reused, or legitimately recycled or reclaimed; or being accumulated, stored, transported or treated prior to such use, re-use, recycling or reclamation, EPA considers the residue to be intended for discard, and thus, a hazardous waste. An example of a legitimate re-use of the residue would be where the residue remains in the container and the container is used to hold the same commercial chemical product or manufacturing chemical intermediate it previously held. An example of the discard of the residue would be where the drum is sent to a drum reconditioner who reconditions the drum but discards the residue.]

(d) Any residue or contaminated soil, water or other debris resulting from the cleanup of a spill into or on any land or water of any commercial chemical product or manufacturing chemical intermediate having the generic name listed in paragraph (e) or (f) of this section, or any residue or contaminated soil, water or other debris resulting from the cleanup of a spill, into or on any land or water, of any off-specification chemical product and manufacturing chemical intermediate which, if it met specifications, would have the generic name listed in paragraph (e) or (f) of this section.

[*Comment:* The phrase "commercial chemical product or manufacturing chemical intermediate having the generic name listed in . . ." refers to a chemical substance which is manufactured or formulated for commercial or manufacturing use which consists of the commercially pure grade of the chemical, any technical grades of the chemical that are produced or marketed, and all formulations in which the chemical is the sole active ingredient. It does not refer to a material, such as a manufacturing process waste, that contains any of the substances listed in paragraph (e) or (f). Where a manufacturing process waste is deemed to be a hazardous waste because it contains a substance listed in paragraph (e) or (f), such waste will be listed in either § 261.31 or § 261.32 or will be identified as a hazardous waste by the characteristics set forth in Subpart C of this part.]

(e) The commercial chemical products, manufacturing chemical intermediates or off-specification commercial chemical products or manufacturing chemical intermediates referred to in paragraphs (a) through (d) of this section, are identified as acute hazardous wastes (H) and are subject to be the small quantity exclusion defined in § 261.5(e).

[*Comment:* For the convenience of the regulated community the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), and R (Reactivity). Absence of a letter indicates that the compound only is listed for acute toxicity.]

These wastes and their corresponding EPA Hazardous Waste Numbers are:

Hazardous waste No.	Chemical abstracts No.	Substance
P023	107-20-0	Acetaldehyde, chloro-
P002	591-08-2	Acetamide, N-(aminothioxomethyl)-
P057	640-19-7	Acetamide, 2-fluoro-
P058	62-74-8	Acetic acid, fluoro-, sodium salt
P002	591-08-2	1-Acetyl-2-thiourea
P003	107-02-8	Acrolein
P070	116-06-3	Aldicarb
P004	309-00-2	Aldrin
P005	107-18-6	Allyl alcohol
P006	20859-73-8	Aluminum phosphide (R,T)
P007	2763-96-4	5-(Aminomethyl)-3-isoxazolol
P008	504-24-5	4-Aminopyridine
P009	131-74-8	Ammonium picrate (R)
P119	7803-55-6	Ammonium vanadate
P099	506-61-6	Argentate(1-), bis(cyano-C)-, potassium
P010	7778-39-4	Arsenic acid H_3AsO_4
P012	1327-53-3	Arsenic oxide As_2O_3
P011	1303-28-2	Arsenic oxide As_2O_5
P011	1303-28-2	Arsenic pentoxide
P012	1327-53-3	Arsenic trioxide
P038	692-42-2	Arsine, diethyl-
P036	696-28-6	Arsonous dichloride, phenyl-
P054	151-56-4	Aziridine
P067	75-55-8	Aziridine, 2-methyl-
P013	542-62-1	Barium cyanide
P024	106-47-8	Benzenamine, 4-chloro-
P077	100-01-6	Benzenamine, 4-nitro-
P028	100-44-7	Benzene, (chloromethyl)-
P042	51-43-4	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)-
P046	122-09-8	Benzeneethanamine, alpha,alpha-dimethyl-
P014	108-98-5	Benzenethiol
P001	[1] 81-81-2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations greater than 0.3%
P028	100-44-7	Benzyl chloride
P015	7440-41-7	Beryllium
P017	598-31-2	Bromoacetone
P018	357-57-3	Brucine
P045	39196-18-4	2-Butanone, 3,3-dimethyl-1-(methylthio)-, O-[methylamino)carbonyl] oxime

Hazardous waste No.	Chemical abstracts No.	Substance
P021	592-01-8	Calcium cyanide
P021	592-01-8	Calcium cyanide $Ca(CN)_2$
P022	75-15-0	Carbon disulfide
P095	75-44-5	Carbonic dichloride
P023	107-20-0	Chloroacetaldehyde
P024	106-47-8	p-Chloroaniline
P026	5344-82-1	1-(o-Chlorophenyl)thiourea
P027	542-76-7	3-Chloropropionitrile
P029	544-92-3	Copper cyanide
P029	544-92-3	Copper cyanide Cu(CN)
P030		Cyanides (soluble cyanide salts), not otherwise specified
P031	460-19-5	Cyanogen
P033	506-77-4	Cyanogen chloride
P033	506-77-4	Cyanogen chloride (CN)Cl
P034	131-89-5	2-Cyclohexyl-4,6-dinitrophenol
P016	542-88-1	Dichloromethyl ether
P036	696-28-6	Dichlorophenylarsine
P037	60-57-1	Dieldrin
P038	692-42-2	Diethylarsine
P041	311-45-5	Diethyl-p-nitrophenyl phosphate
P040	297-97-2	O,O-Diethyl O-pyrazinyl phosphorothioate
P043	55-91-4	Diisopropylfluorophosphate (DFP)
P004	309-00-2	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa- chloro-1,4,4a,5,8,8a,-hexahydro-, (1alpha,4alpha,4abeta,5alpha,8alpha,8abeta)-
P060	465-73-6	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexa- chloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5beta,8beta,8abeta)-
P037	60-57-1	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta, 7aalpha)-
P051	[1] 72-20-8	2,7:3,6-Dimethanonaphth [2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta, 7aalpha)-, & metabolites
P044	60-51-5	Dimethoate
P046	122-09-8	alpha,alpha-Dimethylphenethylamine
P047	[1] 534-52-1	4,6-Dinitro-o-cresol, & salts
P048	51-28-5	2,4-Dinitrophenol
P020	88-85-7	Dinoseb
P085	152-16-9	Diphosphoramide, octamethyl-
P111	107-49-3	Diphosphoric acid, tetraethyl ester
P039	298-04-4	Disulfoton
P049	541-53-7	Dithiobiuret
P050	115-29-7	Endosulfan
P088	145-73-3	Endothall
P051	72-20-8	Endrin
P051	72-20-8	Endrin, & metabolites
P042	51-43-4	Epinephrine
P031	460-19-5	Ethanedinitrile
P066	16752-77-5	Ethanimidothioic acid, N-[[(methylamino)carbonyl]oxy]-, methyl ester
P101	107-12-0	Ethyl cyanide
P054	151-56-4	Ethyleneimine
P097	52-85-7	Famphur
P056	7782-41-4	Fluorine
P057	640-19-7	Fluoroacetamide
P058	62-74-8	Fluoroacetic acid, sodium salt
P065	628-86-4	Fulminic acid, mercury(2+) salt (R,T)
P059	76-44-8	Heptachlor
P062	757-58-4	Hexaethyl tetraphosphate
P116	79-19-6	Hydrazinecarbothioamide
P068	60-34-4	Hydrazine, methyl-
P063	74-90-8	Hydrocyanic acid
P063	74-90-8	Hydrogen cyanide
P096	7803-51-2	Hydrogen phosphide
P060	465-73-6	Isodrin
P007	2763-96-4	3(2H)-Isoxazolone, 5-(aminomethyl)-
P092	62-38-4	Mercury, (acetato-O)phenyl-
P065	628-86-4	Mercury fulminate (R,T)
P082	62-75-9	Methanamine, N-methyl-N-nitroso-
P064	624-83-9	Methane, isocyanato-
P016	542-88-1	Methane, oxybis[chloro-
P112	509-14-8	Methane, tetranitro- (R)

Hazardous waste No.	Chemical abstracts No.	Substance
P118	75-70-7	Methanethiol, trichloro-
P050	115-29-7	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide
P059	76-44-8	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-
P066	16752-77-5	Methomyl
P068	60-34-4	Methyl hydrazine
P064	624-83-9	Methyl isocyanate
P069	75-86-5	2-Methyllactonitrile
P071	298-00-0	Methyl parathion
P072	86-88-4	alpha-Naphthylthiourea
P073	13463-39-3	Nickel carbonyl
P073	13463-39-3	Nickel carbonyl $Ni(CO)_4$, (T-4)-
P074	557-19-7	Nickel cyanide
P074	557-19-7	Nickel cynaide $Ni(CN)_2$
P075	[1] 54-11-5	Nicotine, & salts
P076	10102-43-9	Nitric oxide
P077	100-01-6	p-Nitroaniline
P078	10102-44-0	Nitrogen dioxide
P076	10102-43-9	Nitrogen oxide NO
P078	10102-44-0	Nitrogen oxide NO_2
P081	55-63-0	Nitroglycerine (R)
P082	62-75-9	N-Nitrosodimethylamine
P084	4549-40-0	N-Nitrosomethylvinylamine
P085	152-16-9	Octamethylpyrophosphoramide
P087	20816-12-0	Osmium oxide OsO_4, (T-4)-
P087	20816-12-0	Osmium tetroxide
P088	145-73-3	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid
P089	56-38-2	Parathion
P034	131-89-5	Phenol, 2-cyclohexyl-4,6-dinitro-
P048	51-28-5	Phenol, 2,4-dinitro-
P047	[1] 534-52-1	Phenol, 2-methyl-4,6-dinitro-, & salts
P020	88-85-7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-
P009	131-74-8	Phenol, 2,4,6-trinitro-, ammonium salt (R)
P092	62-38-4	Phenylmercury acetate
P093	103-85-5	Phenylthiourea
P094	298-02-2	Phorate
P095	75-44-5	Phosgene
P096	7803-51-2	Phosphine
P041	311-45-5	Phosphoric acid, diethyl 4-nitrophenyl ester
P039	298-04-4	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester
P094	298-02-2	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester
P044	60-51-5	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester
P043	55-91-4	Phosphorofluoridic acid, bis(1-methylethyl) ester
P089	56-38-2	Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester
P040	297-97-2	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester
P097	52-85-7	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O,O-dimethyl ester
P071	298-00-0	Phosphorothioic acid, O,O,-dimethyl O-(4-nitrophenyl) ester
P110	78-00-2	Plumbane, tetraethyl-
P098	151-50-8	Potassium cyanide
P098	151-50-8	Potassium cyanide K(CN)
P099	506-61-6	Potassium silver cyanide
P070	116-06-3	Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime
P101	107-12-0	Propanenitrile
P027	542-76-7	Propanenitrile, 3-chloro-
P069	75-86-5	Propanenitrile, 2-hydroxy-2-methyl-
P081	55-63-0	1,2,3-Propanetriol, trinitrate (R)
P017	598-31-2	2-Propanone, 1-bromo-
P102	107-19-7	Propargyl alcohol
P003	107-02-8	2-Propenal
P005	107-18-6	2-Propen-1-ol
P067	75-55-8	1,2-Propylenimine
P102	107-19-7	2-Propyn-1-ol
P008	504-24-5	4-Pyridinamine
P075	[1] 54-11-5	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-, & salts
P114	12039-52-0	Selenious acid, dithallium(1+) salt

Hazardous waste No.	Chemical abstracts No.	Substance
P103	630-10-4	Selenourea
P104	506-64-9	Silver cyanide
P104	506-64-9	Silver cyanide Ag(CN)
P105	26628-22-8	Sodium azide
P106	143-33-9	Sodium cyanide
P106	143-33-9	Sodium cyanide Na(CN)
P107	1314-96-1	Strontium sulfide SrS
P108	[1] 57-24-9	Strychnidin-10-one, & salts
P018	357-57-3	Strychnidin-10-one, 2,3-dimethoxy-
P108	[1] 57-24-9	Strychnine, & salts
P115	7446-18-6	Sulfuric acid, dithallium(1+) salt
P109	3689-24-5	Tetraethyldithiopyrophosphate
P110	78-00-2	Tetraethyl lead
P111	107-49-3	Tetraethyl pyrophosphate
P112	509-14-8	Tetranitromethane (R)
P062	757-58-4	Tetraphosphoric acid, hexaethyl ester
P113	1314-32-5	Thallic oxide
P113	1314-32-5	Thallium oxide Tl_2O_3
P114	12039-52-0	Thallium(I) selenite
P115	7446-18-6	Thallium(I) sulfate
P109	3689-24-5	Thiodiphosphoric acid, tetraethyl ester
P045	39196-18-4	Thiofanox
P049	541-53-7	Thioimidodicarbonic diamide $[(H_2N)C(S)]_2NH$
P014	108-98-5	Thiophenol
P116	79-19-6	Thiosemicarbazide
P026	5344-82-1	Thiourea, (2-chlorophenyl)-
P072	86-88-4	Thiourea, 1-naphthalenyl-
P093	103-85-5	Thiourea, phenyl-
P123	8001-35-2	Toxaphene
P118	75-70-7	Trichloromethanethiol
P119	7803-55-6	Vanadic acid, ammonium salt
P120	1314-62-1	Vanadium oxide V_2O_5
P120	1314-62-1	Vanadium pentoxide
P084	4549-40-0	Vinylamine, N-methyl-N-nitroso-
P001	[1] 81-81-2	Warfarin, & salts, when present at concentrations greater than 0.3%
P121	557-21-1	Zinc cyanide
P121	557-21-1	Zinc cyanide $Zn(CN)_2$
P122	1314-84-7	Zinc phosphide Zn_3P_2, when present at concentrations greater than 10% (R,T)

[1] CAS Number given for parent compound only.

(f) The commercial chemical products, manfacturing chemical intermediates, or off-specification commercial chemical products referred to in paragraphs (a) through (d) of this section, are identified as toxic wastes (T), unless otherwise designated and are subject to the small quantity generator exclusion defined in § 261.5 (a) and (g).

[*Comment:* For the convenience of the regulated community, the primary hazardous properties of these materials have been indicated by the letters T (Toxicity), R (Reactivity), I (Ignitability) and C (Corrosivity). Absence of a letter indicates that the compound is only listed for toxicity.]

These wastes and their corresponding EPA Hazardous Waste Numbers are:

Hazardous waste No.	Chemical abstracts No.	Substance
U001	75-07-0	Acetaldehyde (I)
U034	75-87-6	Acetaldehyde, trichloro-
U187	62-44-2	Acetamide, N-(4-ethoxyphenyl)-
U005	53-96-3	Acetamide, N-9H-fluoren-2-yl-
U240	[1] 94-75-7	Acetic acid, (2,4-dichlorophenoxy)-, salts & esters
U112	141-78-6	Acetic acid ethyl ester (I)
U144	301-04-2	Acetic acid, lead(2+) salt
U214	563-68-8	Acetic acid, thallium(1+) salt

iaz- dous aste No.	Chemical abstracts No.	Substance
e F027	93-76-5	Acetic acid, (2,4,5-trichlorophenoxy)-
02	67-64-1	Acetone (I)
03	75-05-8	Acetonitrile (I,T)
04	98-86-2	Acetophenone
05	53-96-3	2-Acetylaminofluorene
06	75-36-5	Acetyl chloride (C,R,T)
07	79-06-1	Acrylamide
08	79-10-7	Acrylic acid (I)
09	107-13-1	Acrylonitrile
11	61-82-5	Amitrole
12	62-53-3	Aniline (I,T)
36	75-60-5	Arsinic acid, dimethyl
14	492-80-8	Auramine
15	115-02-6	Azaserine
10	50-07-7	Azirino[2',3':3,4]pyrrolo[1,2-a]indole-4,7-dione, 6-amino-8-[[(aminocarbonyl)oxy]methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-, [1aS-(1aalpha, 8beta,8aalpha,8balpha)]-
57	56-49-5	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-
16	225-51-4	Benz[c]acridine
17	98-87-3	Benzal chloride
92	23950-58-5	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-
18	56-55-3	Benz[a]anthracene
94	57-97-6	Benz[a]anthracene, 7,12-dimethyl-
12	62-53-3	Benzenamine (I,T)
14	492-80-8	Benzenamine, 4,4'-carbonimidoylbis[N,N-dimethyl-
49	3165-93-3	Benzenamine, 4-chloro-2-methyl-, hydrochloride
93	60-11-7	Benzenamine, N,N-dimethyl-4-(phenylazo)-
28	95-53-4	Benzenamine, 2-methyl-
53	106-49-0	Benzenamine, 4-methyl-
8	101-14-4	Benzenamine, 4,4'-methylenebis[2-chloro-
2	636-21-5	Benzenamine, 2-methyl-, hydrochloride
1	99-55-8	Benzenamine, 2-methyl-5-nitro-
9	71-43-2	Benzene (I,T)
8	510-15-6	Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester
0	101-55-3	Benzene, 1-bromo-4-phenoxy-
5	305-03-3	Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]-
7	108-90-7	Benzene, chloro-
1	25376-45-8	Benzenediamine, ar-methyl-
8	117-81-7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester
9	84-74-2	1,2-Benzenedicarboxylic acid, dibutyl ester
8	84-66-2	1,2-Benzenedicarboxylic acid, diethyl ester
2	131-11-3	1,2-Benzenedicarboxylic acid, dimethyl ester
7	117-84-0	1,2-Benzenedicarboxylic acid, dioctyl ester
0	95-50-1	Benzene, 1,2-dichloro-
1	541-73-1	Benzene, 1,3-dichloro-
2	106-46-7	Benzene, 1,4-dichloro-
0	72-54-8	Benzene, 1,1'-(2,2-dichloroethylidene)bis[4-chloro-
7	98-87-3	Benzene, (dichloromethyl)-
3	26471-62-5	Benzene, 1,3-diisocyanatomethyl- (R,T)
9	1330-20-7	Benzene, dimethyl- (I,T)
1	108-46-3	1,3-Benzenediol
7	118-74-1	Benzene, hexachloro-
6	110-82-7	Benzene, hexahydro- (I)
0	108-88-3	Benzene, methyl-
5	121-14-2	Benzene, 1-methyl-2,4-dinitro-
6	606-20-2	Benzene, 2-methyl-1,3-dinitro-
5	98-82-8	Benzene, (1-methylethyl)- (I)
9	98-95-3	Benzene, nitro-
3	608-93-5	Benzene, pentachloro-
5	82-68-8	Benzene, pentachloronitro-
0	98-09-9	Benzenesulfonic acid chloride (C,R)
0	98-09-9	Benzenesulfonyl chloride (C,R)
7	95-94-3	Benzene, 1,2,4,5-tetrachloro-
1	50-29-3	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro-
7	72-43-5	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4- methoxy-
8	98-07-7	Benzene, (trichloromethyl)-
4	99-35-4	Benzene, 1,3,5-trinitro-
1	92-87-5	Benzidine
2	[1] 81-07-2	1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, & salts
3	94-59-7	1,3-Benzodioxole, 5-(2-propenyl)-

Hazardous waste No.	Chemical abstracts No.	Substance
U141	120-58-1	1,3-Benzodioxole, 5-(1-propenyl)-
U090	94-58-6	1,3-Benzodioxole, 5-propyl-
U064	189-55-9	Benzo[rst]pentaphene
U248	[1]81-81-2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenyl-butyl)-, & salts, when present at concentrations of 0.3% or less
U022	50-32-8	Benzo[a]pyrene
U197	106-51-4	p-Benzoquinone
U023	98-07-7	Benzotrichloride (C,R,T)
U085	1464-53-5	2,2′-Bioxirane
U021	92-87-5	[1,1′-Biphenyl]-4,4′-diamine
U073	91-94-1	[1,1′-Biphenyl]-4,4′-diamine, 3,3′-dichloro-
U091	119-90-4	[1,1′-Biphenyl]-4,4′-diamine, 3,3′-dimethoxy-
U095	119-93-7	[1,1′-Biphenyl]-4,4′-diamine, 3,3′-dimethyl-
U225	75-25-2	Bromoform
U030	101-55-3	4-Bromophenyl phenyl ether
U128	87-68-3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
U172	924-16-3	1-Butanamine, N-butyl-N-nitroso-
U031	71-36-3	1-Butanol (I)
U159	78-93-3	2-Butanone (I,T)
U160	1338-23-4	2-Butanone, peroxide (R,T)
U053	4170-30-3	2-Butenal
U074	764-41-0	2-Butene, 1,4-dichloro- (I,T)
U143	303-34-4	2-Butenoic acid, 2-methyl-, 7-[[2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy]methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S-[1alpha(Z),7(2S*,3R*),7aalpha]]-
U031	71-36-3	n-Butyl alcohol (I)
U136	75-60-5	Cacodylic acid
U032	13765-19-0	Calcium chromate
U238	51-79-6	Carbamic acid, ethyl ester
U178	615-53-2	Carbamic acid, methylnitroso-, ethyl ester
U097	79-44-7	Carbamic chloride, dimethyl-
U114	[1] 111-54-6	Carbamodithioic acid, 1,2-ethanediylbis-, salts & esters
U062	2303-16-4	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester
U215	6533-73-9	Carbonic acid, dithallium(1+) salt
U033	353-50-4	Carbonic difluoride
U156	79-22-1	Carbonochloridic acid, methyl ester (I,T)
U033	353-50-4	Carbon oxyfluoride (R,T)
U211	56-23-5	Carbon tetrachloride
U034	75-87-6	Chloral
U035	305-03-3	Chlorambucil
U036	57-74-9	Chlordane, alpha & gamma isomers
U026	494-03-1	Chlornaphazin
U037	108-90-7	Chlorobenzene
U038	510-15-6	Chlorobenzilate
U039	59-50-7	p-Chloro-m-cresol
U042	110-75-8	2-Chloroethyl vinyl ether
U044	67-66-3	Chloroform
U046	107-30-2	Chloromethyl methyl ether
U047	91-58-7	beta-Chloronaphthalene
U048	95-57-8	o-Chlorophenol
U049	3165-93-3	4-Chloro-o-toluidine, hydrochloride
U032	13765-19-0	Chromic acid H_2CrO_4, calcium salt
U050	218-01-9	Chrysene
U051		Creosote
U052	1319-77-3	Cresol (Cresylic acid)
U053	4170-30-3	Crotonaldehyde
U055	98-82-8	Cumene (I)
U246	506-68-3	Cyanogen bromide (CN)Br
U197	106-51-4	2,5-Cyclohexadiene-1,4-dione
U056	110-82-7	Cyclohexane (I)
U129	58-89-9	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)-
U057	108-94-1	Cyclohexanone (I)
U130	77-47-4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-
U058	50-18-0	Cyclophosphamide
U240	[1] 94-75-7	2,4-D, salts & esters
U059	20830-81-3	Daunomycin
U060	72-54-8	DDD

Haz- rdous vaste No.	Chemical abstracts No.	Substance
061	50-29-3	DDT
062	2303-16-4	Diallate
063	53-70-3	Dibenz[a,h]anthracene
064	189-55-9	Dibenzo[a,i]pyrene
066	96-12-8	1,2-Dibromo-3-chloropropane
069	84-74-2	Dibutyl phthalate
070	95-50-1	o-Dichlorobenzene
071	541-73-1	m-Dichlorobenzene
072	106-46-7	p-Dichlorobenzene
073	91-94-1	3,3'-Dichlorobenzidine
074	764-41-0	1,4-Dichloro-2-butene (I,T)
075	75-71-8	Dichlorodifluoromethane
078	75-35-4	1,1-Dichloroethylene
079	156-60-5	1,2-Dichloroethylene
025	111-44-4	Dichloroethyl ether
027	108-60-1	Dichloroisopropyl ether
024	111-91-1	Dichloromethoxy ethane
081	120-83-2	2,4-Dichlorophenol
082	87-65-0	2,6-Dichlorophenol
084	542-75-6	1,3-Dichloropropene
085	1464-53-5	1,2:3,4-Diepoxybutane (I,T)
108	123-91-1	1,4-Diethyleneoxide
028	117-81-7	Diethylhexyl phthalate
086	1615-80-1	N,N'-Diethylhydrazine
087	3288-58-2	O,O-Diethyl S-methyl dithiophosphate
088	84-66-2	Diethyl phthalate
089	56-53-1	Diethylstilbesterol
090	94-58-6	Dihydrosafrole
091	119-90-4	3,3'-Dimethoxybenzidine
92	124-40-3	Dimethylamine (I)
93	60-11-7	p-Dimethylaminoazobenzene
94	57-97-6	7,12-Dimethylbenz[a]anthracene
95	119-93-7	3,3'-Dimethylbenzidine
96	80-15-9	alpha,alpha-Dimethylbenzylhydroperoxide (R)
97	79-44-7	Dimethylcarbamoyl chloride
98	57-14-7	1,1-Dimethylhydrazine
99	540-73-8	1,2-Dimethylhydrazine
01	105-67-9	2,4-Dimethylphenol
02	131-11-3	Dimethyl phthalate
03	77-78-1	Dimethyl sulfate
05	121-14-2	2,4-Dinitrotoluene
06	606-20-2	2,6-Dinitrotoluene
07	117-84-0	Di-n-octyl phthalate
08	123-91-1	1,4-Dioxane
09	122-66-7	1,2-Diphenylhydrazine
10	142-84-7	Dipropylamine (I)
11	621-64-7	Di-n-propylnitrosamine
41	106-89-8	Epichlorohydrin
01	75-07-0	Ethanal (I)
74	55-18-5	Ethanamine, N-ethyl-N-nitroso-
55	91-80-5	1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-
67	106-93-4	Ethane, 1,2-dibromo-
76	75-34-3	Ethane, 1,1-dichloro-
77	107-06-2	Ethane, 1,2-dichloro-
31	67-72-1	Ethane, hexachloro-
24	111-91-1	Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-
17	60-29-7	Ethane, 1,1'-oxybis-(I)
25	111-44-4	Ethane, 1,1'-oxybis[2-chloro-
84	76-01-7	Ethane, pentachloro-
08	630-20-6	Ethane, 1,1,1,2-tetrachloro-
09	79-34-5	Ethane, 1,1,2,2-tetrachloro-
18	62-55-5	Ethanethioamide
26	71-55-6	Ethane, 1,1,1-trichloro-
27	79-00-5	Ethane, 1,1,2-trichloro-
59	110-80-5	Ethanol, 2-ethoxy-
73	1116-54-7	Ethanol, 2,2'-(nitrosoimino)bis-
04	98-86-2	Ethanone, 1-phenyl-
43	75-01-4	Ethene, chloro-
42	110-75-8	Ethene, (2-chloroethoxy)-
78	75-35-4	Ethene, 1,1-dichloro-

Hazardous waste No.	Chemical abstracts No.	Substance
U079	156-60-5	Ethene, 1,2-dichloro-, (E)-
U210	127-18-4	Ethene, tetrachloro-
U228	79-01-6	Ethene, trichloro-
U112	141-78-6	Ethyl acetate (I)
U113	140-88-5	Ethyl acrylate (I)
U238	51-79-6	Ethyl carbamate (urethane)
U117	60-29-7	Ethyl ether (I)
U114	[1] 111-54-6	Ethylenebisdithiocarbamic acid, salts & esters
U067	106-93-4	Ethylene dibromide
U077	107-06-2	Ethylene dichloride
U359	110-80-5	Ethylene glycol monoethyl ether
U115	75-21-8	Ethylene oxide (I,T)
U116	96-45-7	Ethylenethiourea
U076	75-34-3	Ethylidene dichloride
U118	97-63-2	Ethyl methacrylate
U119	62-50-0	Ethyl methanesulfonate
U120	206-44-0	Fluoranthene
U122	50-00-0	Formaldehyde
U123	64-18-6	Formic acid (C,T)
U124	110-00-9	Furan (I)
U125	98-01-1	2-Furancarboxaldehyde (I)
U147	108-31-6	2,5-Furandione
U213	109-99-9	Furan, tetrahydro-(I)
U125	98-01-1	Furfural (I)
U124	110-00-9	Furfuran (I)
U206	18883-66-4	Glucopyranose, 2-deoxy-2-(3-methyl-3-nitrosoureido)-, D-
U206	18883-66-4	D-Glucose, 2-deoxy-2-[[(methylnitrosoamino)-carbonyl]amino]-
U126	765-34-4	Glycidylaldehyde
U163	70-25-7	Guanidine, N-methyl-N'-nitro-N-nitroso-
U127	118-74-1	Hexachlorobenzene
U128	87-68-3	Hexachlorobutadiene
U130	77-47-4	Hexachlorocyclopentadiene
U131	67-72-1	Hexachloroethane
U132	70-30-4	Hexachlorophene
U243	1888-71-7	Hexachloropropene
U133	302-01-2	Hydrazine (R,T)
U086	1615-80-1	Hydrazine, 1,2-diethyl-
U098	57-14-7	Hydrazine, 1,1-dimethyl-
U099	540-73-8	Hydrazine, 1,2-dimethyl-
U109	122-66-7	Hydrazine, 1,2-diphenyl-
U134	7664-39-3	Hydrofluoric acid (C,T)
U134	7664-39-3	Hydrogen fluoride (C,T)
U135	7783-06-4	Hydrogen sulfide
U135	7783-06-4	Hydrogen sulfide H_2S
U096	80-15-9	Hydroperoxide, 1-methyl-1-phenylethyl- (R)
U116	96-45-7	2-Imidazolidinethione
U137	193-39-5	Indeno[1,2,3-cd]pyrene
U190	85-44-9	1,3-Isobenzofurandione
U140	78-83-1	Isobutyl alcohol (I,T)
U141	120-58-1	Isosafrole
U142	143-50-0	Kepone
U143	303-34-4	Lasiocarpine
U144	301-04-2	Lead acetate
U146	1335-32-6	Lead, bis(acetato-O)tetrahydroxytri-
U145	7446-27-7	Lead phosphate
U146	1335-32-6	Lead subacetate
U129	58-89-9	Lindane
U163	70-25-7	MNNG
U147	108-31-6	Maleic anhydride
U148	123-33-1	Maleic hydrazide
U149	109-77-3	Malononitrile
U150	148-82-3	Melphalan
U151	7439-97-6	Mercury
U152	126-98-7	Methacrylonitrile (I, T)
U092	124-40-3	Methanamine, N-methyl- (I)
U029	74-83-9	Methane, bromo-
U045	74-87-3	Methane, chloro- (I, T)
U046	107-30-2	Methane, chloromethoxy-
U068	74-95-3	Methane, dibromo-

Hazardous waste No.	Chemical abstracts No.	Substance
U080	75-09-2	Methane, dichloro-
U075	75-71-8	Methane, dichlorodifluoro-
U138	74-88-4	Methane, iodo-
U119	62-50-0	Methanesulfonic acid, ethyl ester
U211	56-23-5	Methane, tetrachloro-
U153	74-93-1	Methanethiol (I, T)
U225	75-25-2	Methane, tribromo-
U044	67-66-3	Methane, trichloro-
U121	75-69-4	Methane, trichlorofluoro-
U036	57-74-9	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-
U154	67-56-1	Methanol (I)
U155	91-80-5	Methapyrilene
U142	143-50-0	1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-
U247	72-43-5	Methoxychlor
U154	67-56-1	Methyl alcohol (I)
U029	74-83-9	Methyl bromide
U186	504-60-9	1-Methylbutadiene (I)
U045	74-87-3	Methyl chloride (I,T)
U156	79-22-1	Methyl chlorocarbonate (I,T)
U226	71-55-6	Methyl chloroform
U157	56-49-5	3-Methylcholanthrene
U158	101-14-4	4,4′-Methylenebis(2-chloroaniline)
U068	74-95-3	Methylene bromide
U080	75-09-2	Methylene chloride
U159	78-93-3	Methyl ethyl ketone (MEK) (I,T)
U160	1338-23-4	Methyl ethyl ketone peroxide (R,T)
U138	74-88-4	Methyl iodide
U161	108-10-1	Methyl isobutyl ketone (I)
U162	80-62-6	Methyl methacrylate (I,T)
U161	108-10-1	4-Methyl-2-pentanone (I)
U164	56-04-2	Methylthiouracil
U010	50-07-7	Mitomycin C
U059	20830-81-3	5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-trideoxy)-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)-
U167	134-32-7	1-Naphthalenamine
U168	91-59-8	2-Naphthalenamine
U026	494-03-1	Naphthalenamine, N,N′-bis(2-chloroethyl)-
U165	91-20-3	Naphthalene
U047	91-58-7	Naphthalene, 2-chloro-
U166	130-15-4	1,4-Naphthalenedione
U236	72-57-1	2,7-Naphthalenedisulfonic acid, 3,3′-[(3,3′-dimethyl[1,1′-biphenyl]-4,4′-diyl)bis(azo)bis[5-amino-4-hydroxy]-, tetrasodium salt
U166	130-15-4	1,4-Naphthoquinone
U167	134-32-7	alpha-Naphthylamine
U168	91-59-8	beta-Naphthylamine
U217	10102-45-1	Nitric acid, thallium(1+) salt
U169	98-95-3	Nitrobenzene (I,T)
U170	100-02-7	p-Nitrophenol
U171	79-46-9	2-Nitropropane (I,T)
U172	924-16-3	N-Nitrosodi-n-butylamine
U173	1116-54-7	N-Nitrosodiethanolamine
U174	55-18-5	N-Nitrosodiethylamine
U176	759-73-9	N-Nitroso-N-ethylurea
U177	684-93-5	N-Nitroso-N-methylurea
U178	615-53-2	N-Nitroso-N-methylurethane
U179	100-75-4	N-Nitrosopiperidine
U180	930-55-2	N-Nitrosopyrrolidine
U181	99-55-8	5-Nitro-o-toluidine
U193	1120-71-4	1,2-Oxathiolane, 2,2-dioxide
U058	50-18-0	2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide
U115	75-21-8	Oxirane (I,T)
U126	765-34-4	Oxiranecarboxyaldehyde
U041	106-89-8	Oxirane, (chloromethyl)-
U182	123-63-7	Paraldehyde
U183	608-93-5	Pentachlorobenzene
U184	76-01-7	Pentachloroethane
U185	82-68-8	Pentachloronitrobenzene (PCNB)
See F027	87-86-5	Pentachlorophenol

Hazardous waste No.	Chemical abstracts No.	Substance
U161	108-10-1	Pentanol, 4-methyl-
U186	504-60-9	1,3-Pentadiene (I)
U187	62-44-2	Phenacetin
U188	108-95-2	Phenol
U048	95-57-8	Phenol, 2-chloro-
U039	59-50-7	Phenol, 4-chloro-3-methyl-
U081	120-83-2	Phenol, 2,4-dichloro-
U082	87-65-0	Phenol, 2,6-dichloro-
U089	56-53-1	Phenol, 4,4′-(1,2-diethyl-1,2-ethenediyl)bis-, (E)-
U101	105-67-9	Phenol, 2,4-dimethyl-
U052	1319-77-3	Phenol, methyl-
U132	70-30-4	Phenol, 2,2′-methylenebis[3,4,6-trichloro-
U170	100-02-7	Phenol, 4-nitro-
See F027	87-86-5	Phenol, pentachloro-
See F027	58-90-2	Phenol, 2,3,4,6-tetrachloro-
See F027	95-95-4	Phenol, 2,4,5-trichloro-
See F027	88-06-2	Phenol, 2,4,6-trichloro-
U150	148-82-3	L-Phenylalanine, 4-[bis(2-chloroethyl)amino]-
U145	7446-27-7	Phosphoric acid, lead(2+) salt (2:3)
U087	3288-58-2	Phosphorodithioic acid, O,O-diethyl S-methyl ester
U189	1314-80-3	Phosphorus sulfide (R)
U190	85-44-9	Phthalic anhydride
U191	109-06-8	2-Picoline
U179	100-75-4	Piperidine, 1-nitroso-
U192	23950-58-5	Pronamide
U194	107-10-8	1-Propanamine (I,T)
U111	621-64-7	1-Propanamine, N-nitroso-N-propyl-
U110	142-84-7	1-Propanamine, N-propyl- (I)
U066	96-12-8	Propane, 1,2-dibromo-3-chloro-
U083	78-87-5	Propane, 1,2-dichloro-
U149	109-77-3	Propanedinitrile
U171	79-46-9	Propane, 2-nitro- (I,T)
U027	108-60-1	Propane, 2,2′-oxybis[2-chloro-
U193	1120-71-4	1,3-Propane sultone
See F027	93-72-1	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-
U235	126-72-7	1-Propanol, 2,3-dibromo-, phosphate (3:1)
U140	78-83-1	1-Propanol, 2-methyl- (I,T)
U002	67-64-1	2-Propanone (I)
U007	79-06-1	2-Propenamide
U084	542-75-6	1-Propene, 1,3-dichloro-
U243	1888-71-7	1-Propene, 1,1,2,3,3,3-hexachloro-
U009	107-13-1	2-Propenenitrile
U152	126-98-7	2-Propenenitrile, 2-methyl- (I,T)
U008	79-10-7	2-Propenoic acid (I)
U113	140-88-5	2-Propenoic acid, ethyl ester (I)
U118	97-63-2	2-Propenoic acid, 2-methyl-, ethyl ester
U162	80-62-6	2-Propenoic acid, 2-methyl-, methyl ester (I,T)
U194	107-10-8	n-Propylamine (I,T)
U083	78-87-5	Propylene dichloride
U148	123-33-1	3,6-Pyridazinedione, 1,2-dihydro-
U196	110-86-1	Pyridine
U191	109-06-8	Pyridine, 2-methyl-
U237	66-75-1	2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]-
U164	56-04-2	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-
U180	930-55-2	Pyrrolidine, 1-nitroso-
U200	50-55-5	Reserpine
U201	108-46-3	Resorcinol
U202	[1] 81-07-2	Saccharin, & salts
U203	94-59-7	Safrole
U204	7783-00-8	Selenious acid
U204	7783-00-8	Selenium dioxide
U205	7488-56-4	Selenium sulfide[1]
U205	7488-56-4	Selenium sulfide SeS_2 (R,T)
U015	115-02-6	L-Serine, diazoacetate (ester)

Hazardous waste No.	Chemical abstracts No.	Substance
See F027	93-72-1	Silvex (2,4,5-TP)
U206	18883-66-4	Streptozotocin
U103	77-78-1	Sulfuric acid, dimethyl ester
U189	1314-80-3	Sulfur phosphide (R)
See F027	93-76-5	2,4,5-T
U207	95-94-3	1,2,4,5-Tetrachlorobenzene
U208	630-20-6	1,1,1,2-Tetrachloroethane
U209	79-34-5	1,1,2,2-Tetrachloroethane
U210	127-18-4	Tetrachloroethylene
See F027	58-90-2	2,3,4,6-Tetrachlorophenol
U213	109-99-9	Tetrahydrofuran (I)
U214	563-68-8	Thallium(I) acetate
U215	6533-73-9	Thallium(I) carbonate
U216	7791-12-0	Thallium(I) chloride
U216	7791-12-0	Thallium chloride Tlcl
U217	10102-45-1	Thallium(I) nitrate
U218	62-55-5	Thioacetamide
U153	74-93-1	Thiomethanol (I,T)
U244	137-26-8	Thioperoxydicarbonic diamide $[(H_2N)C(S)]_2S_2$, tetramethyl-
U219	62-56-6	Thiourea
U244	137-26-8	Thiram
U220	108-88-3	Toluene
U221	25376-45-8	Toluenediamine
U223	26471-62-5	Toluene diisocyanate (R,T)
U328	95-53-4	o-Toluidine
U353	106-49-0	p-Toluidine
U222	636-21-5	o-Toluidine hydrochloride
U011	61-82-5	1H-1,2,4-Triazol-3-amine
U227	79-00-5	1,1,2-Trichloroethane
U228	79-01-6	Trichloroethylene
U121	75-69-4	Trichloromonofluoromethane
See F027	95-95-4	2,4,5-Trichlorophenol
See F027	88-06-2	2,4,6-Trichlorophenol
U234	99-35-4	1,3,5-Trinitrobenzene (R,T)
U182	123-63-7	1,3,5-Trioxane, 2,4,6-trimethyl-
U235	126-72-7	Tris(2,3-dibromopropyl) phosphate
U236	72-57-1	Trypan blue
U237	66-75-1	Uracil mustard
U176	759-73-9	Urea, N-ethyl-N-nitroso-
U177	684-93-5	Urea, N-methyl-N-nitroso-
U043	75-01-4	Vinyl chloride
U248	[1] 81-81-2	Warfarin, & salts, when present at concentrations of 0.3% or less
U239	1330-20-7	Xylene (I)
U200	50-55-5	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester, (3beta,16beta,17alpha,18beta,20alpha)-
U249	1314-84-7	Zinc phosphide Zn_3P_2, when present at concentrations of 10% or less

[1] CAS Number given for parent compound only.

(Approved by the Office of Management and Budget under control number 2050-0047)

[45 FR 78529, 78541, Nov. 25, 1980]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 261.33, see the List of CFR Sections Affected in the Finding Aids section of this volume.

APPENDIX I—REPRESENTATIVE SAMPLING METHODS

The methods and equipment used for sampling waste materials will vary with the form and consistency of the waste materials to be sampled. Samples collected using the sampling protocols listed below, for sampling waste with properties similar to the indicated materials, will be considered by the Agency to be representative of the waste.

Extremely viscous liquid—ASTM Standard D140-70 Crushed or powdered material—ASTM Standard D346-75 Soil or rock-like material—ASTM Standard D420-69 Soil-like material—ASTM Standard D1452-65

Fly Ash-like material—ASTM Standard D2234-76 [ASTM Standards are available from ASTM, 1916 Race St., Philadelphia, PA 19103]

Containerized liquid wastes—"COLIWASA" described in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods," [a] U.S. Environmental Protection Agency, Office of Solid Waste, Washington, D.C. 20460. [Copies may be obtained from Solid Waste Information, U.S. Environmental Protection Agency, 26 W. St. Clair St., Cincinnati, Ohio 45268]

Liquid waste in pits, ponds, lagoons, and similar reservoirs.—"Pond Sampler" described in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods." [a]

This manual also contains additional information on application of these protocols.

APPENDIX II—METHOD 1311 TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)

1.0 Scope and Application

1.1 The TCLP is designed to determine the mobility of both organic and inorganic analytes present in liquid, solid, and multiphasic wastes.

1.2 If a total analysis of the waste demonstrates that individual analytes are not present in the waste, or that they are present but at such low concentrations that the appropriate regulatory levels could not possibly be exceeded, the TCLP need not be run.

1.3 If an analysis of any one of the liquid fractions of the TCLP extract indicates that a regulated compound is present at such high concentrations that, even after accounting for dilution from the other fractions of the extract, the concentration would be equal to or above the regulatory level for that compound, then the waste is hazardous and it is not necessary to analyze the remaining fractions of the extract.

1.4 If an analysis of extract obtained using a bottle extractor shows that the concentration of any regulated volatile analyte equals or exceeds the regulatory level for that compound, then the waste is hazardous and extraction using the ZHE is not necessary. However, extract from a bottle extractor cannot be used to demonstrate that the concentration of volatile compounds is below the regulatory level.

2.0 Summary of Method

2.1 For liquid wastes (i.e., those containing less than 0.5% dry solid material), the waste, after filtration through a 0.6 to 0.8 μm glass fiber filter, is defined as the TCLP extract.

2.2 For wastes containing greater than or equal to 0.5% solids, the liquid, if any, is separated from the solid phase and stored for later analysis; the particle size of the solid phase is reduced, if necessary. The solid phase is extracted with an amount of extraction fluid equal to 20 times the weight of the solid phase. The extraction fluid employed is a function of the alkalinity of the solid phase of the waste. A special extractor vessel is used when testing for volatile analytes (see Table 1 for a list of volatile compounds). Following extraction, the liquid extract is separated from the solid phase by filtration through a 0.6 to 0.8 μm glass fiber filter.

2.3 If compatible (i.e., multiple phases will not form on combination), the initial liquid phase of the waste is added to the liquid extract, and these are analyzed together. If incompatible, the liquids are analyzed separately and the results are mathematically combined to yield a volume-weighted average concentration.

3.0 Interferences

3.1 Potential interferences that may be encountered during analysis are discussed in the individual analytical methods.

4.0 Apparatus and Materials

4.1 Agitation apparatus: The agitation apparatus must be capable of rotating the extraction vessel in an end-over-end fashion (see Figure 1) at 30 ±2 rpm. Suitable devices known to EPA are identified in Table 2.

4.2 Extraction Vessels.

4.2.1 Zero-Headspace Extraction Vessel (ZHE). This device is for use only when the waste is being tested for the mobility of volatile analytes (i.e., those listed in Table 1). The ZHE (depicted in Figure 2) allows for liquid/solid separation within the device, and effectively precludes headspace. This type of vessel allows for initial liquid/solid separation, extraction, and final extract filtration without opening the vessel (see section 4.3.1). The vessels shall have an internal volume of 500-600 mL, and be equipped to accommodate a 90-110 mm filter. The devices contain VITON®[1] O-rings which should be replaced frequently. Suitable ZHE devices known to EPA are identified in Table 3.

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[a] These methods are also described in "Samplers and Sampling Procedures for Hazardous Waste Streams," EPA 600/2-80-018, January 1980.

[1] VITON® is a registered trademark of DuPont.

For the ZHE to be acceptable for use, the piston within the ZHE should be able to be moved with approximately 15 pounds per square inch (psi) or less. If it takes more pressure to move the piston, the O-rings in the device should be replaced. If this does not solve the problem, the ZHE is unacceptable for TCLP analyses and the manufacturer should be contacted.

The ZHE should be checked for leaks after every extraction. If the device contains a built-in pressure gauge, pressurize the device to 50 psi, allow it to stand unattended for 1 hour, and recheck the pressure. If the device does not have a built-in pressure gauge, pressurize the device to 50 psi, submerge it in water, and check for the presence of air bubbles escaping from any of the fittings. If pressure is lost, check all fittings and inspect and replace O-rings, if necessary. Retest the device. If leakage problems cannot be solved, the manufacturer should be contacted.

Some ZHEs use gas pressure to actuate the ZHE piston, while others use mechanical pressure (see Table 3). Whereas the volatiles procedures (see section 7.3) refers to pounds per square inch (psi), for the mechanically actuated piston, the pressure applied is measured in torque-inch-pounds. Refer to the manufacturer's instructions as to the proper conversion.

4.2.2 Bottle Extraction Vessel. When the waste is being evaluated using the nonvolatile extraction, a jar with sufficient capacity to hold the sample and the extraction fluid is needed. Headspace is allowed in this vessel.

The extraction bottles may be constructed from various materials, depending on the analytes to be analyzed and the nature of the waste (see section 4.3.3). It is recommended that borosilicate glass bottles be used instead of other types of glass, especially when inorganics are of concern. Plastic bottles, other than polytetrafluoroethylene, shall not be used if organics are to be investigated. Bottles are available from a number of laboratory suppliers. When this type of extraction vessel is used, the filtration device discussed in section 4.3.2 is used for initial liquid/solid separation and final extract filtration.

4.3 Filtration Devices: It is recommended that all filtrations be performed in a hood.

4.3.1 Zero-Headspace Extractor Vessel (ZHE): When the waste is evaluated for volatiles, the zero-headspace extraction vessel described in section 4.2.1 is used for filtration. The device shall be capable of supporting and keeping in place the glass fiber filter and be able to withstand the pressure needed to accomplish separation (50 psi).

Note: When it is suspected that the glass fiber filter has been ruptured, an in-line glass fiber filter may be used to filter the material within the ZHE.

4.3.2 Filter Holder: When the waste is evaluated for other than volatile analytes, any filter holder capable of supporting a glass fiber filter and able to withstand the pressure needed to accomplish separation may be used. Suitable filter holders range from simple vacuum units to relatively complex systems capable of exerting pressures of up to 50 psi or more. The type of filter holder used depends on the properties of the material to be filtered (see section 4.3.3). These devices shall have a minimum internal volume of 300 mL and be equipped to accommodate a minimum filter size of 47 mm (filter holders having an internal capacity of 1.5 L or greater, and equipped to accommodate a 142 mm diameter filter, are recommended). Vacuum filtration can only be used for wastes with low solids content (<10%) and for highly granular, liquid-containing wastes. All other types of wastes should be filtered using positive pressure filtration. Suitable filter holders known to EPA are shown in Table 4.

4.3.3 Materials of Construction: Extraction vessels and filtration devices shall be made of inert materials which will not leach or absorb waste components. Glass, polytetrafluoroethylene (PTFE), or type 316 stainless steel equipment may be used when evaluating the mobility of both organic and inorganic components. Devices made of high density polyethylene (HDPE), polypropylene (PP), or polyvinyl chloride (PVC) may be used only when evaluating the mobility of metals. Borosilicate glass bottles are recommended for use over other types of glass bottles, especially when inorganics are analytes of concern.

4.4 Filters: Filters shall be made of borosilicate glass fiber, shall contain no binder materials, and shall have an effective pore size of 0.6 to 0.8 μm, or equivalent. Filters known to EPA which meet these specifications are identified in Table 5. Pre-filters must not be used. When evaluating the mobility of metals, filters shall be acid-washed prior to use by rinsing with 1N nitric acid followed by three consecutive rinses with deionized distilled water (a minimum of 1 L per rinse is recommended). Glass fiber filter are fragile and should be handled with care.

4.5 pH Meters: The meter should be accurate to ± 0.05 units at 25°C.

4.6 ZHE Extract Collection Devices: TEDLAR®[2] bags or glass, stainless steel or

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[2] TEDLAR® is a registered trademark of Dupont.

PTFE gag-tight syringes are used to collect the initial liquid phase and the final extract of the waste when using the ZHE device. The devices listed are recommended for use under the following conditions:

4.6.1 If a waste contains an aqueous liquid phase or if a waste does not contain a significant amount of nonaqueous liquid (i.e., <1% of total waste), the TEDLAR® bag or a 600 mL syringe should be used to collect and combine the initial liquid and solid extract.

4.6.2 If a waste contains a significant amount of nonaqueous liquid in the initial liquid phase (i.e., >1% of total waste), the syringe or the TEDLAR® bag may be used for both the intitial solid/liquid separation and the final extract filtration. However, analysts should use one or the other, not both.

4.6.3 If the waste contains no initial liquid phase (is 100% solid) or has no significant solid phase (is 100% liquid), either the TEDLAR® bag or the syringe may be used. If the syringe is used, discard the first 5 mL of liquid expressed from the device. The remaining aliquots are used for analysis.

4.7 ZHE Extraction Fluid Transfer Devices: Any device capable of transferring the extraction fluid into the ZHE without changing the nature of the extraction fluid is acceptable (e.g, a positive displacement or peristaltic pump, a gas tight syringe, pressure filtration unit (see section 4.3.2), or other ZHE device).

4.8 Laboratory Balance: Any laboratory balance accurate to within ± 0.01 grams may be used (all weight measurements are to be within ± 0.1 grams).

4.9 Beaker or Erlenmeyer flask, glass, 500 mL.

4.10 Watchglass, appropriate diameter to cover beaker or erlenmeyer flask.

4.11 Magnetic stirrer.

5.0 Reagents

5.1 Reagent grade chemicals shall be used in all tests. Unless otherwise indicated, it is intended that all reagents shall conform to the specifications of the Committee on Analytical Reagents of the American Chemical Society, where such specifications are available. Other grades may be used, provided it is first ascertained that the reagent is of sufficiently high purity to permit its use without lessening the accuracy of the determination.

5.2 Reagent water. Reagent water is defined as water in which an interferant is not observed at or above the methods detection limit of the analyte(s) of interest. For nonvolatile extractions, ASTM Type II water or equivalent meets the definition of reagent water. For volatile extractions, it is recommended that reagent water be generated by any of the following methods. Reagent water should be monitored periodically for impurities.

5.2.1 Reagent water for volatile extractions may be generated by passing tap water through a carbon filter bed containing about 500 grams of activated carbon (Calgon Corp., Filtrasorb-300 or equivalent).

5.2.2 A water purification system (Millipore Super-Q or equivalent) may also be used to generate reagent water for volatile extractions.

5.2.3 Reagent water for volatile extractions may also be prepared by boiling water for 15 minutes. Subsequently, while maintaining the water temperature at 90 + 5 degrees C, bubble a contaminant-free inert gas (e.g., nitrogen) through the water for 1 hour. While still hot, transfer the water to a narrow mouth screw-cap bottle under zero-headspace and seal with a Teflon-lined septum and cap.

5.3 Hydrochloric acid (1N), HCl, made from ACS reagent grade.

5.4 Nitric acid (1N), HNO_3, made from ACS reagent grade.

5.5 Sodium hydroxide (1N), NaOH, made from ACS reagent grade.

5.6 Clacial acetic acid, CH_3CH_2OOH, ACS reagent grade.

5.7 Extraction fluid.

5.7.1 Extraction fluid #1: Add 5.7 mL glacial CH_3CH_2OOH to 500 mL of reagent water (See section 5.2), add 64.3 mL of 1N NaOH, and dilute to a volume of 1 liter. When correctly prepared, the pH of this fluid will be 4.93 ± 0.05.

5.7.2 Extraction fluid #2: Dilute 5.7 mL glacial CH_3CH_2OOH with reagent water (See section 5.2) to a volume of 1 liter. When correctly prepared, the pH of this fluid will be 2.88 ± 0.05.

NOTE: These extraction fluids should be monitored frequently for impurities. The pH should be checked prior to use to ensure that these fluids are made up accurately. If impurities are found or the pH is not within the above specifications, the fluid shall be discarded and fresh extraction fluid prepared.

5.8 Analytical standards shall be prepared according to the appropriate analytical method.

6.0 Sample Collection, Preservation, and Handling

6.1 All samples shall be collected using an appropriate sampling plan.

6.2 The TCLP may place requirements on the minimal size of the field sample, depending upon the physical state or states of the waste and the analytes of concern. An aliquot is needed for preliminary evaluation of which extraction fluid is to be used for the nonvolatile analyte extraction procedure. Another aliquot may be needed to actually conduct the nonvolatile extraction (see section 1.4 concerning the use of this extract for volatile organics). If volatile organics are of concern, another aliquot may be needed. Quality control measures may require additional aliquots. Further, it is always wise to collect more samples just in case something goes wrong with the initial attempt to conduct the test.

6.3 Preservatives shall not be added to samples before extraction.

6.4 Samples may be refrigerated unless refrigeration results in irreversible physical change to the waste. If precipitation occurs, the entire sample (including precipitate) should be extracted.

6.5 When the waste is to be evaluated for volatile analytes, care shall be taken to minimize the loss of volatiles. Samples shall be collected and stored in a manner intended to prevent the loss of volatile analytes (e.g., samples should be collected in Teflon-lined septum capped vials and stored at 4 °C. Samples should be opened only immediately prior to extraction).

6.6 TCLP extracts should be prepared for analysis and analyzed as soon as possible following extraction. Extracts or portions of extracts for metallic analyte determinations must be acidified with nitric acid to a pH <2, unless precipitation occurs (see section 7.2.14 if precipitation occurs). Extracts should be preserved for other analytes according to the guidance given in the individual analysis methods. Extracts or portions of extracts for organic analyte determinations shall not be allowed to come into contact with the atmosphere (i.e., no headspace) to prevent losses. See section 8.0 (QA requirements) for acceptable sample and extract holding times.

7.0 Procedure

7.1 Preliminary Evaluations. Perform preliminary TCLP evaluations on a minimum 100 gram aliquot of waste. This aliquot may not actually undergo TCLP extraction. These preliminary evaluations include: (1) Determination of the percent solids (section 7.1.1); (2) determination of whether the waste contains insignificant olids and is, therefore, its own extract after iltration (section 7.1.2); (3) determination f whether the solid portion of the waste requires particle size reduction (section 7.1.3); nd (4) determination of which of the two xtraction fluids are to be used for the nonolatile TCLP extraction of the waste (secion 7.1.4.).

7.1.1 Preliminary determination of perent solids: Percent solids is defined as that raction of a waste sample (as a percentage f the total sample) from which no liquid nay be forced out by an applied pressure, as escribed below.

7.1.1.1 If the waste will obviously yield o liquid when subjected to pressure filtration (i.e., is 100% solids) proceed to section 7.1.3.

7.1.1.2 If the sample is liquid or multiphasic, liquid/solid separation to make a preliminary determination of percent solids is required. This involves the filtration device described in section 4.3.2 and is outlined in sections 7.1.1.3 through 7.1.1.9.

7.1.1.3 Pre-weigh the filter and the container that will receive the filtrate.

7.1.1.4 Assemble the filter holder and filter following the manufacturer's instructions. Place the filter on the support screen and secure.

7.1.1.5 Weigh out a subsample of the waste (100 gram minimum) and record the weight.

7.1.1.6 Allow slurries to stand to permit the solid phase to settle. Wastes that settle slowly may be centrifuged prior to filtration. Centrifugation is to be used only as an aid to filtration. If used, the liquid should be decanted and filtered followed by filtration of the solid portion of the waste through the same filtration system.

7.1.1.7 Quantitatively transfer the waste sample to the filter holder (liquid and solid phases). Spread the waste sample evenly over the surface of the filter. If filtration of the waste at 4 °C reduces the amount of expressed liquid over what would be expressed at room temperature then allow the sample to warm up to room temperature in the device before filtering.

NOTE: If waste material (>1% of original sample weight) has obviously adhered to the container used to transfer the sample to the filtration apparatus, determine the weight of this residue and subtract it from the sample weight determined in section 7.1.1.5 to determine he weight of the waste sample that will be filtered.

Gradually apply vacuum or gentle pressure of 1-10 psi, until air or pressurizing gas moves through the filter. If this point is not reached under 10 psi, and if no additional liquid has passed through the filter in any 2 minute interval, slowly increase the pressure in 10 psi increments to a maximum of 50 psi. After each incremental increase of 10 psi, if the pressurizing gas has not moved through the filter, and if no additional liquid has passed through the filter in any 2 minute interval, proceed to the next 10 psi increment. When the pressurizing gas begins to move through the filter, or when liquid flow has ceased at 50 psi (i.e., filtration does not result in any additional filtrate within any 2 minute period), stop the filtration.

NOTE: Instantaneous application of high pressure can degrade the glass fiber filter and may cause premature plugging.

7.1.1.8 The material in the filter holder is defined as the solid phase of the waste, and the filtrate is defined as the liquid phase.

NOTE: Some wastes, such as oily wastes and some paint wastes, will obviously contain some material that appears to be a liquid. Even after applying vacuum or pressure filtration, as outlined in section 7.1.1.7, this material may not filter. If this is the case, the material within the filtration device is defined as a solid. Do not replace the original filter with a fresh filter under any circumstances. Use only one filter.

7.1.1.9 Determine the weight of the liquid phase by subtracting the weight of the filtrate container (see section 7.1.1.2) from the total weight of the filtrate-filled container. Determine the weight of the solid phase of the waste sample by subtracting the weight of the liquid phase from the weight of the total waste sample, as determined in section 7.1.1.5 or 7.1.1.7.

Record the weight of the liquid and solid phases. Calculate the percent solids as follows:

$$\text{Percent solids} = \frac{\text{Weight of solid (section 7.1.1.9)}}{\text{Total weight of waste (section 7.1.1.5 or 7.1.1.7)}} \times 100$$

7.1.2 If the percent solids determined in section 7.1.1.9 is equal to or greater than 0.5%, then proceed either to section 7.1.3 to determine whether the solid material requires particle size reduction or to section 7.1.2.1 if it is noticed that a small amount of the filtrate is entrained in wetting of the filter. If the percent solids determined in section 7.1.1.9 is less than 0.5%, then proceed to section 7.2.9 if the nonvolatile TCLP is to be performed and to section 7.3 with a fresh portion of the waste if the volatile TCLP is to be performed.

7.1.2.1 Remove the solid phase and filter from the filtration apparatus.

7.1.2.2 Dry the filter and solid phase at 100± 20°C until two successive weighings yield the same value within ± 1%. Record the final weight.

NOTE: Caution should be taken to ensure that the subject solid will not flash upon heating. It is recommended that the drying oven be vented to a hood or other appropriate device.

7.1.2.3 Calculate the percent dry solids as follows:

$$\text{\% dry solids} = \frac{\text{(Weight of dry waste + filter)—tared weight of filter}}{\text{Initial weight of waste (section 7.1.1.5 or 7.1.1.7)}} \times 100$$

7.1.2.4 If the percent dry solids is less than 0.5%, then proceed to section 7.2.9 if the nonvolatile TCLP is to be performed, and to section 7.3 if the volatile TCLP is to be performed. If the percent dry solids is greater than or equal to 0.5%, and if the nonvolatile TCLP is to be performed, return to the beginning of this section (7.1) and, with a fresh portion of waste, determine whether particle size reduction is necessary (section 7.1.3) and determine the appropriate extraction fluid (section 7.1.4). If only the volatile TCLP is to be performed, see the note in section 7.1.4.

7.1.3 Determination of whether the waste requires particle size reduction (particle size is reduced during this step): Using the solid portion of the waste, evaluate the solid for particle size. Particle size reduction is required, unless the solid has a surface area per gram of material equal to or greater than 3.1 cm², or is smaller than 1 cm in its narrowest dimension (i.e., is capable of passing through a 9.5 mm (0.375 inch) standard sieve). If the surface area is smaller or the particle size larger than described above, prepare the solid portion of the waste for extraction by crushing, cutting, or grinding the waste to a surface area or particle size as described above. If the solids are prepared for organic volatiles extraction, special precautions must be taken (see section 7.3.6).

NOTE: Surface area criteria are meant for filamentous (e.g., paper, cloth, and similar) waste materials. Actual measurement of surface area is not required, nor is it recommended. For materials that do not obviously meet the criteria, sample-specific methods would need to be developed and employed to measure the surface area. Such methodology is currently not available.

7.1.4 Determination of appropriate extraction fluid: If the solid content of the waste is greater than or equal to 0.5% and if the sample will be extracted for nonvolatile constituents (section 7.2), determine the appropriate fluid (section 5.7) for the nonvolatiles extraction as follows:

NOTE: TCLP extraction for volatile constituents uses only extraction fluid #1 (section 5.7.1). Therefore, if TCLP extraction for nonvolatiles is not required, proceed to section 7.3.

7.1.4.1 Weigh out a small subsample of the solid phase of the waste, reduce the solid (if necessary) to a particle size of approximately 1 mm in diameter or less, and transfer 5.0 grams of the solid phase of the waste to a 500 mL beaker or Erlenmeyer flask.

7.1.4.2 Add 96.5 mL of reagent water to the beaker, cover with a watchglass, and stir vigorously for 5 minutes using a magnetic stirrer. Measure and record the pH. If the pH is <5.0, use extraction fluid #1. Proceed to section 7.2.

7.1.4.3 If the pH from section 7.1.4.2 is >5.0, add 3.5 mL 1N NCl, slurry briefly, cover with a watchglass, heat to 50°C, and hold at 50°C for 10 minutes.

7.1.4.4 Let the solution cool to room temperature and record the pH. If the pH is <5.0, use extraction fluid #1. If the pH is >5.0, use extraction fluid #2. Proceed to section 7.2.

7.1.5 If the aliquot of the waste used for the preliminary evaluation (sections 7.1.1-7.1.4) was determined to be 100% solid at section 7.1.1.1, then it can be used for the section 7.2 extraction (assuming at least 100 grams remain), and the section 7.3 extraction (assuming at least 25 grams remain). If the aliquot was subjected to the procedure in section 7.1.1.7, then another aliquot shall be used for the volatile extraction procedure in section 7.3. The aliquot of the waste subjected to the procedure in section 7.1.1.7 might be appropriate for use for the section 7.2 extraction if an adequate amount of solid (as determined by section 7.1.1.9) was obtained. The amount of solid necessary is dependent upon whether a sufficient amount of extract will be produced to support the analyses. If an adequate amount of solid remains, proceed to section 7.2.10 of the nonvolatile TCLP extraction.

7.2 Procedure When Volatiles are not Involved. A minimum sample size of 100 grams (solid and liquid phases) is recommended. In some cases, a larger sample size may be appropriate, depending on the solids content of the waste sample (percent solids, See section 7.1.1), whether the initial liquid phase of the waste will be miscible with the aqueous extract of the solid, and whether inorganics, semivolatile organics, pesticides, and herbicides are all analytes of concern. Enough solids should be generated for extraction such that the volume of TCLP extract will be sufficient to support all of the analyses required. If the amount of extract generated by a single TCLP extraction will not be sufficient to perform all of the analyses, more than one extraction may be performed and the extracts from each combined and aliquoted for analysis.

7.2.1 If the waste will obviously yield no liquid when subjected to pressure filtration (i.e., is 100% solid, see section 7.1.1), weigh out a subsample of the waste (100 gram minimum) and proceed to section 7.2.9.

7.2.2 If the sample is liquid or multiphasic, liquid/solid separation is required. This involves the filtration device described in section 4.3.2 and is outlined in sections 7.2.3 to 7.2.8.

7.2.3 Pre-weigh the container that will receive the filtrate.

7.2.4 Assemble the filter holder and filter following the manufacturer's instructions. Place the filter on the support screen and secure. Acid-wash the filter if evaluating the mobility of metals (see section 4.4).

NOTE: Acid-washed filters may be used for all nonvolatile extractions even when metals are not of concern.

7.2.5 Weigh out a subsample of the waste (100 gram minimum) and record the weight. If the waste contains <0.5% dry solids (section 7.1.2), the liquid portion of the waste, after filtration, is defined as the TCLP extract. Therefore, enough of the sample should be filtered so that the amount of filtered liquid will support all of the analyses required of the TCLP extract. For wastes containing >0.5% dry solids (sections 7.1.1 or 7.1.2), use the percent solids information obtained in section 7.1.1 to determine the optimum sample size (100 gram minimum) for filtration. Enough solids should be generated by filtration to support the analyses to be performed on the TCLP extract.

7.2.6 Allow slurries to stand to permit the solid phase to settle. Wastes that settle slowly may be centrifuged prior to filtration. Use centrifugation only as an aid to filtration. If the waste is centrifuged, the liquid should be decanted and filtered followed by filtration of the solid portion of the waste through the same filtration system.

7.2.7 Quantitatively transfer the waste sample (liquid and solid phases) to the filter holder (see section 4.3.2). Spread the waste sample evenly over the surface of the filter. If filtration of the waste at 4 °C reduces the amount of expressed liquid over what would be expressed at room temperature, then allow the sample to warm up to room temperature in the device before filtering.

NOTE: If waste material (>1% of the original sample weight) has obviously adhered to the container used to transfer the sample to the filtration apparatus, determine the weight of this residue and subtract it from the sample weight determined in section

7.2.5, to determine the weight of the waste sample that will be filtered.

Gradually apply vacuum or gentle pressure of 1-10 psi, until air or pressurizing gas moves through the filter. If this point is reached under 10 psi, and if no additional liquid has passed through the filter in any 2 minute interval, slowly increase the pressure in 10 psi increments to a maximum of 50 psi. After each incremental increase of 10 psi, if the pressurizing gas has not moved through the filter, and if no additional liquid has passed through the filter in any 2 minute interval, proceed to the next 10 psi increment. When the pressurizing gas begins to move through the filter, or when the liquid flow has ceased at 50 psi (i.e., filtration does not result in any additional filtrate within a 2 minute period), stop the filtration.

NOTE: Instantaneous application of high pressure can degrade the glass fiber filter and may cause premature plugging.

7.2.8 The material in the filter holder is defined as the solid phase of the waste, and the filtrate is defined as the liquid phase. Weigh the filtrate. The liquid phase may now be either analyzed (See section 7.2.12) or stored at 4°C until time of analysis.

NOTE: Some wastes, such as oily wastes and some paint wastes, will obviously contain some material that appears to be a liquid. Even after applying vacuum or pressure filtration, as outlined in section 7.2.7, this material may not filter. If this is the case, the material within the filtration device is defined as a solid and is carried through the extraction as a solid. Do not replace the original filter with a fresh filter under any circumstances. Use only one filter.

7.2.9 If the waste contains <0.5% dry solids (see section 7.1.2), proceed to section 7.2.13. If the waste contains >0.5% dry solids (see section 7.1.1 or 7.1.2), and if particle size reduction of the solid was needed in section 7.1.3, proceed to section 7.2.10. If the waste as received passes a 9.5 mm sieve, quantitatively transfer the solid material into the extractor bottle along with the filter used to separate the initial liquid from the solid phase, and proceed to section 7.2.11.

7.2.10 Prepare the solid portion of the waste for extraction by crushing, cutting, or grinding the waste to a surface area or particle size as described in section 7.1.3. When the surface area or particle size has been appropriately altered, quantitatively transfer the solid material into an extractor bottle. Include the filter used to separate the initial liquid from the solid phase.

NOTE: Sieving of the waste is not normally required. Surface area requirements are meant for filamentous (e.g., paper, cloth) and similar waste materials. Actual measurement of surface area is not recommended. If sieving is necessary, a Teflon-coated sieve should be used to avoid contamination of the sample.

7.2.11 Determine the amount of extraction fluid to add to the extractor vessel as follows:

$$\text{Weight of extraction fluid} = \frac{20 \times \text{percent solids (section 7.1.1)} \times \text{weight of waste filtered (section 7.2.5 or 7.2.7)}}{100}$$

Slowly add this amount of appropriate extraction fluid (see section 7.1.4) to the extractor vessel. Close the extractor bottle tightly (it is recommended that Teflon tape be used to ensure a tight seal), secure in rotary agitation device, and rotate at 30 ± 2 rpm for 18 ± 2 hours. Ambient temperature (i.e., temperature of room in which extraction takes place) shall be maintained at 23 ± 2°C during the extraction period.

NOTE: As agitation continues, pressure may build within the extractor bottle for some types of wastes (e.g., limed or calcium carbonate containing waste may evolve gases such as carbon dioxide). To relieve excess pressure, the extractor bottle may be periodically opened (e.g., after 15 minutes, 30 minutes, and 1 hour) and vented into a hood.

7.2.12 Following the 18 ± 2 hour extraction, separate the material in the extractor vessel into its component liquid and solid phases by filtering through a new glass fiber filter, as outlined in section 7.2.7. For final filtration of the TCLP extract, the glass fiber filter may be changed, if necessary, to facilitate filtration. Filter(s) shall be acid-washed (see section 4.4) if evaluating the mobility of metals.

7.2.13 Prepare the TCLP extract as follows:

7.2.13.1 If the waste contained no initial liquid phase, the filtered liquid material obtained from section 7.2.12 is defined as the TCLP extract. Proceed to section 7.2.14.

7.2.13.2 If compatible (e.g., multiple phases will not result on combination), combine the filtered liquid resulting from section 7.2.12 with the initial liquid phase of the waste obtained in section 7.2.7. This combined liquid is defined as the TCLP extract. Proceed to section 7.2.14.

7.2.13.3 If the initial liquid phase of the waste, as obtained from section 7.2.7, is not or may not be compatible with the filtered liquid resulting from section 7.2.12, do not combine these liquids. Analyze these liquids, collectively defined as the TCLP extract, and combine the results mathematically, as described in section 7.2.14.

7.2.14 Following collection of the TCLP extract, the pH of the extract should be recorded. Immediately aliquot and preserve the extract for analysis. Metals aliquots must be acidified with nitric acid to pH <2. If precipitation is observed upon addition of nitric acid to a small aliquot of the extract, then the remaining portion of the extract for metals analyses shall not be acidified and the extract shall be analyzed as soon as possible. All other aliquots must be stored under refrigeration (4 °C) until analyzed. The TCLP extract shall be prepared and analyzed according to appropriate analytical methods. TCLP extracts to be analyzed for metals shall be acid digested except in those instances where digestion causes loss of metallic analytes. If an analysis of the undigested extract shows that the concentration of any regulated metallic analyte exceeds the regulatory level, then the waste is hazardous and digestion of the extract is not necessary. However, data on undigested extracts alone cannot be used to demonstrate that the waste is not hazardous. If the individual phases are to be analyzed separately, determine the volume of the individual phases (to ± 0.5%), conduct the appropriate analyses, and combine the results mathematically by using a simple volume-weighted average:

$$\text{Final Analyte Concentration} = \frac{(V_1)(C_1)+(V_2)(C_2)}{V_1+V_2}$$

where:

V_1=The volume of the first phase (L).

C_1=The concentration of the analyte of concern in the first phase (mg/L).

V_2=The volume of the second phase (L).

C_2=The concentration of the analyte of concern in the second phase (mg/L).

7.2.15 Compare the analyte concentrations in the TCLP extract with the levels identified in the appropriate regulations. Refer to section 8.0 for quality assurance requirements.

7.3 Procedure When Volatiles are Involved. Use the ZHE device to obtain TCLP extract for analysis of volatile compounds only. Extract resulting from the use of the ZHE shall not be used to evaluate the mobility of nonvolatile analytes (e.g., metals, pesticides, etc.).

The ZHE device has approximately a 500 mL internal capacity. The ZHE can thus accommodate a maximum of 25 grams of solid (defined as that fraction of a sample from which no additional liquid may be forced out by an applied pressure of 50 psi), due to the need to add an amount of extraction fluid equal to 20 times the weight of the solid phase.

Charge the ZHE with sample only once and do not open the device until the final extract (of the solid) has been collected. Repeated filling of the ZHE to obtain 25 grams of solid is not permitted.

Do not allow the waste, the initial liquid phase, or the extract to be exposed to the atmosphere for any more time than is absolutely necessary. Any manipulation of these materials should be done when cold (4°C) to minimize loss of volatiles.

7.3.1 Pre-weigh the (evacuated) filtrate collection container (See section 4.6) and set aside. If using a TEDLAR® bag, express all liquid from the ZHE device into the bag, whether for the initial or final liquid/solid separation, and take an aliquot from the liquid in the bag for analysis. The containers listed in section 4.6 are recommended for use under the conditions stated in sections 4.6.1–4.6.3.

7.3.2 Place the ZHE piston within the body of the ZHE (it may be helpful first to moisten the piston O-rings slightly with extraction fluid). Adjust the piston within the ZHE body to a height that will minimize the distance the piston will have to move once the ZHE is charged with sample (based upon sample size requirements determined from section 7.3, section 7.1.1 and/or 7.1.2). Secure the gas inlet/outlet flange (bottom flange) onto the ZHE body in accordance with the manufacturer's instructions. Secure the glass fiber filter between the support screens and set aside. Set liquid inlet/outlet flange (top flange) aside.

7.3.3 If the waste is 100% solid (see section 7.1.1), weigh out a subsample (25 gram maximum) of the waste, record weight, and proceed to section 7.3.5.

7.3.4 If the waste contains <5% dry solids (section 7.1.2), the liquid portion of waste, after filtration, is defined as the TCLP extract. Filter enough of the sample so that the amount of filtered liquid will support all of the volatile analyses required. For wastes containing >5% dry solids (sections 7.1.1 and/or 7.1.2), use the percent solids information obtained in section 7.1.1 to determine the optimum sample size to charge into the ZHE. The recommended sample size is as follows:

7.3.4.1 For waste containing <5% solids (see Section 7.1.1), weigh out a 500 gram subsample of waste and record the weight.

7.3.4.2 For wastes containing >5% solids (see Section 7.1.1), determine the amount of waste to charge into the ZHE as follows:

$$\text{Weight of waste to charge ZHE} = \frac{25}{\text{percent solids (section 7.1.1)}} \times 100$$

Weigh out a subsample of the waste of the appropriate size and record the weight.

7.3.5 If particle size reduction of the solid portion of the waste was required in section 7.1.3, proceed to section 7.3.6. If particle size reduction was not required in section 7.1.3, proceed to section 7.3.7.

7.3.6 Prepare the waste for extraction by crushing, cutting, or grinding the solid portion of the waste to a surface area or particle size as described in section 7.1.3.1. Wastes and appropriate reduction equipment should be refrigerated, if possible, to 4°C prior to particle size reduction. The means used to effect particle size reduction must not generate heat in and of itself. If reduction of the solid phase of the waste is necessary, exposure of the waste to the atmosphere should be avoided to the extent possible.

NOTE: Sieving of the waste is not recommended due to the possibility that volatiles may be lost. The use of an appropriately graduated ruler is recommended as an acceptable alternative. Surface area requirements are meant for filamentous (e.g., paper, cloth) and similar waste materials. Actual measurement of surface area is not recommended.

When the surface area or particle size has been appropriately altered, proceed to section 7.3.7.

7.3.7 Waste slurries need not be allowed to stand to permit the solid phase to settle. Do not centrifuge wastes prior to filtration.

7.3.8 Quantitatively transfer the entire sample (liquid and solid phases) quickly to the ZHE. Secure the filter and support screens onto the top flange of the device and secure the top flange to the ZHE body in accordance with the manufacturer's instructions. Tighten all ZHE fittings and place the device in the vertical position (gas inlet/outlet flange on the bottom). Do not attach the extract collection device to the top plate.

NOTE: If waste material (>1% of original sample weight) has obviously adhered to the container used to transfer the sample to the ZHE, determine the weight of this residue and subtract it from the sample weight determined in section 7.3.4 to determine the weight of the waste sample that will be filtered.

Attach a gas line to the gas inlet/outlet valve (bottom flange) and, with the liquid inlet/outlet valve (top flange) open, begin applying gentle pressure of 1-10 psi (or more if necessary) to force all headspace slowly out of the ZHE device into a hood. At the first appearance of liquid from the liquid inlet/outlet valve, quickly close the valve and discontinue pressure. If filtration of the waste at 4 °C reduces the amount of expressed liquid over what would be expressed at room temperature, then allow the sample to warm up to room temperature in the device before filtering. If the waste is 100% solid (see section 7.1.1), slowly increase the pressure to a maximum of 50 psi to force most of the headspace out of the device and proceed to section 7.3.12.

7.3.9 Attach the evacuated pre-weighed filtrate collection container to the liquid inlet/outlet valve and open the valve. Begin applying gentle pressure of 1-10 psi to force the liquid phase of the sample into the filtrate collection container. If no additional liquid has passed through the filter in any 2 minute interval, slowly increase the pressure in 10 psi increments to a maximum of 50 psi. After each incremental increase of 10 psi, if no additional liquid has passed through the filter in any 2 minute interval, proceed to the next 10 psi increment. When liquid flow has ceased such that continued pressure filtration at 50 psi does not result in any additional filtrate within a 2 minute period, stop the filtration. Close the liquid inlet/outlet valve, discontinue pressure to the piston, and disconnect and weigh the filtrate collection container.

NOTE: Instantaneous application of high pressure can degrade the glass fiber filter and may cause premature plugging.

7.3.10 The material in the ZHE is defined as the solid phase of the waste and the filtrate is defined as the liquid phase.

NOTE: Some wastes, such as oily wastes and some paint wastes, will obviously contain some material that appears to be a liquid. Even after applying pressure filtration, this material will not filter. If this is the case, the material within the filtration device is defined as a solid and is carried through the TCLP extraction as a solid.

If the original waste contained <0.5% dry solids (see section 7.1.2), this filtrate is defined as the TCLP extract and is analyzed directly. Proceed to section 7.3.15.

7.3.11 The liquid phase may now be either analyzed immediately (See sections 7.3.13 through 7.3.15) or stored at 4°C under minimal headspace conditions until time of analysis.

Determine the weight of extraction fluid #1 to add to the ZHE as follows:

$$\text{Weight of extraction fluid} = \frac{20 \times \text{percent solids (section 7.1.1)} \times \text{weight of waste filtered (section 7.3.4 or 7.3.8)}}{100}$$

7.3.12 The following sections detail how to add the appropriate amount of extraction fluid to the solid material within the ZHE and agitation of the ZHE vessel. Extraction fluid #1 is used in all cases (See section 5.7).

7.3.12.1 With the ZHE in the vertical position, attach a line from the extraction fluid reservoir to the liquid inlet/outlet valve. The line used shall contain fresh extraction fluid and should be preflushed with fluid to eliminate any air pockets in the line. Release gas pressure on the ZHE piston (from the gas inlet/outlet valve), open the liquid inlet/outlet valve, and begin transferring extraction fluid (by pumping or similar means) into the ZHE. Continue pumping extraction fluid into the ZHE until the appropriate amount of fluid has been introduced into the device.

7.3.12.2 After the extraction fluid has been added, immediately close the liquid inlet/outlet valve and disconnect the extraction fluid line. Check the ZHE to ensure that all valves are in their closed positions. Manually rotate the device in an end-over-end fashion 2 or 3 times. Reposition the ZHE in the vertical position with the liquid inlet/outlet valve on top. Pressurize the ZHE to 5-10 psi (if necessary) and slowly open the liquid inlet/outlet valve to bleed out any headspace (into a hood) that may have been introduced due to the addition of extraction fluid. This bleeding shall be done quickly and shall be stopped at the first appearance of liquid from the valve. Re-pressurize the ZHE with 5-10 psi and check all ZHE fittings to ensure that they are closed.

7.3.12.3 Place the ZHE in the rotary agitation apparatus (if it is not already there) and rotate at 30 ± 2 rpm for 18 ± 2 hours. Ambient temperature (i.e., temperature of room in which extraction occurs) shall be maintained at 22 ± 3°C during agitation.

7.3.13 Following the 18 ± 2 hour agitation period, check the pressure behind the ZHE piston by quickly opening and closing the gas inlet/outlet valve and noting the escape of gas. If the pressure has not been maintained (i.e., no gas release observed), the device is leaking. Check the ZHE for leaking as specified in section 4.2.1, and perform the extraction again with a new sample of waste. If the pressure within the device has been maintained, the material in the extractor vessel is once again separated into its component liquid and solid phases. If the waste contained an initial liquid phase, the liquid may be filtered directly into the same filtrate collection container (i.e., TEDLAR® bag) holding the initial liquid phase of the waste. A separate filtrate collection container must be used if combining would create multiple phases, or there is not enough volume left within the filtrate collection container. Filter through the glass fiber filter, using the ZHE device as discussed in section 7.3.9. All extract shall be filtered and collected if the TEDLAR® bag is used, if the extract is multiphasic, or if the waste contained an initial liquid phase (see sections 4.6 and 7.3.1).

NOTE: An in-line glass fiber filter may be used to filter the material within the ZHE if it is suspected that the glass fiber filter has been ruptured.

7.3.14 If the original waste contained no initial liquid phase, the filtered liquid material obtained from section 7.3.13 is defined as the TCLP extract. If the waste contained an initial liquid phase, the filtered liquid material obtained from section 7.3.13 and the initial liquid phase (section 7.3.9) are collectively defined as the TCLP extract.

7.3.15 Following collection of the TCLP extract, immediately prepare the extract for analysis and store with minimal headspace at 4°C until analyzed. Analyze the TCLP extract according to the appropriate analytical methods. If the individual phases are to be analyzed separately (i.e., are not miscible), determine the volume of the individual phases (to 0.5%), conduct the appropriate analyses, and combine the results mathematically by using a simple volume-weighted average:

$$\text{Final Analtye Concentration} = \frac{(V_1)(C_1)+(V_2)(C_2)}{V_1+V_2}$$

where:

V_1 = The volume of the first phases (L).

C_1 = The concentration of the analyte of concern in the first phase (mg/L).
V_2 = The volume of the second phase (L).
C_2 = The concentration of the analyte of concern in the second phase (mg/L).

7.3.16 Compare the analyte concentrations in the TCLP extract with the levels identified in the appropriate regulations. Refer to section 8.0 for quality assurance requirements.

8.0 *Quality Assurance*

8.1 A minimum of one blank (using the same extraction fluid as used for the samples) must be analyzed for every 20 extractions that have been conducted in an extraction vessel.

8.2 A matrix spike shall be performed for each waste type (e.g., wastewater treatment sludge, contaminated soil, etc.) unless the result exceeds the regulatory level and the data is being used solely to demonstrate that the waste property exceeds the regulatory level. A minimum of one matrix spike must be analyzed for each analytical batch. The bias determined from the matrix spike determination shall be used to correct the measured values. (See sections 8.2.4 and 8.2.5.) As a minimum, follow the matrix spike addition guidance provided in each analytical method.

8.2.1 Matrix spikes are to be added after filtration of the TCLP extract and before preservation. Matrix spikes should not be added prior to TCLP extraction of the sample.

8.2.2 In most cases, matrix spikes should be added at a concentration equivalent to the corresponding regulatory level. If the analyte concentration is less than one half the regulatory level, the spike concentration may be as low as one half of the analyte concentration, but may not be not less than five times the method detection limit. In order to avoid differences in matrix effects, the matrix spikes must be added to the same nominal volume of TCLP extract as that which was analyzed for the unspiked sample.

8.2.3 The purpose of the matrix spike is to monitor the performance of the analytical methods used, and to determine whether matrix interferences exist. Use of other internal calibration methods, modification of the analytical methods, or use of alternate analytical methods may be needed to accurately measure the analyte concentration of the TCLP extract when the recovery of the matrix spike is below the expected analytical method performance.

8.2.4 Matrix spike recoveries are calculated by the following formula:

$$\%R\ (\%\ \text{Recovery}) = 100\ (X_s - X_u)/K$$

where:

X_s = measured value for the spiked sample,
X_u = measured value for the unspiked sample, and
K = known value of the spike in the sample.

8.2.5 Measured values are corrected for analytical bias using the following formula:

$$X_c = 100\ (X_u/\%R)$$

where:

X_c = corrected value, and
X_u = measured value of the unspiked sample.

8.3 All quality control measures described in the appropriate analytical methods shall be followed.

8.4 Samples must undergo TCLP extraction within the following time periods:

SAMPLE MAXIMUM HOLDING TIMES (DAYS)

	From: Field collection to: TCLP extraction	From: TCLP extraction to: Preparative extraction	From: preparative extraction to: determinative analysis	Total elapsed time
Volatiles	14	NA	14	28
Semivolatiles	14	7	40	61
Mercury	28	NA	28	56
Metals, except mercury	180	NA	180	360

NA = Not applicable.

If sample holding times are exceeded, the values obtained will be considered minimal concentrations. Exceeding the holding time is not acceptable in establishing that a waste does not exceed the regulatory level. Exceeding the holding time will not invalidate characterization if the waste exceeds the regulatory level.

TABLE 1.—VOLATILE ANALYTES [1,2]

Compound	CAS No.
Acetone	67-64-1
Benzene	71-43-2
n-Butyl alcohol	71-36-3
Carbon disulfide	75-15-0
Carbon tetrachloride	56-23-5
Chlorobenzene	108-90-7
Chloroform	67-66-3
1,2-Dichloroethane	107-06-2
1,1-Dichloroethylene	75-35-4
Ethyl acetate	141-78-6
Ethyl benzene	100-41-4
Ethyl ether	60-29-7
Isobutanol	78-83-1
Methanol	67-56-1
Methylene chloride	75-09-2
Methyl ethyl ketone	78-93-3
Methyl isobutyl ketone	108-10-1
Tetrachloroethylene	127-18-4
Toluene	108-88-3

TABLE 1.—VOLATILE ANALYTES [1,2]—Continued

Compound	CAS No.
1,1,1,-Trichloroethane	71-55-6
Trichloroethylene	79-01-6
Trichlorofluoromethane	75-69-4
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1
Vinyl chloride	75-01-4
Xylene	1330-20-7

[1] When testing for any or all of these analytes, the zero-headspace extractor vessel shall be used instead of the bottle extractor.

[2] Benzene, carbon tetrachloride, chlorobenzene, chloroform, 1,2-dichlorethane, 1,1-dichloroethylene, methyl ethyl ketone, tetrachloroethylene, trichloroethylene, and vinyl chloride are toxicity characteristic constituents.

TABLE 2.—SUITABLE ROTARY AGITATION APPARATUS [1]

Company	Location	Model No.
Analytical Testing and Consulting Services, Inc.	Warrington, PA, (215) 343-4490.	4-vessel (DC20S), 8-vessel (DC20), 12-vessel (DC20B).
Associated Design and Manufacturing Company.	Alexandria VA, (703) 549-5999.	2-vessel (3740-2), 4-vessel (3740-4), 6-vessel (3740-6), 8-vessel (3740-8), 12-vessel (3740-12), 24-vessel (3740-24).
Environmental Machine and Design, Inc.	Lynchburg, VA, (804) 845-6424.	8-vessel (08-00-00) 4-vessel (04-00-00).
IRA Machine Shop and Laboratory.	Santurce, PR, (809) 752-4004.	8-vessel (011001).
Lars Lande Manufacturing.	Whitmore Lake, MI, (313) 449-4116.	10-vessel (01VRE), 5-vessel (5VRE).
Millipore Corp.	Bedford, MA, (800) 225-3384.	4-ZHE or 4 1-liter, bottle extractor, (YT30ORAHW).

[1] Any device that rotates the extraction vessel in an end-over-end fashion at 30 ± 2 rpm is acceptable.

TABLE 3.—SUITABLE ZERO-HEADSPACE EXTRACTOR VESSELS [1]

Company	Location	Model No.
Analytical Testing & Consulting Services, Inc..	Warrington, PA, (215) 343-4490.	C102, Mechanical Pressure Device.
Associated Design and Manufacturing Company.	Alexandria VA, (703) 549-5999.	3745-ZHE, Gas Pressure Device.
Lars Lande Manufacturing [2].	Whitmore Lake, MI, (313) 449-4116.	ZHE-11, Gas Pressure Device.
Millipore Corporation.	Bedford, MA, (800) 225-3384.	YT30090HW, Gas Pressure Device.
Environmental Machine and Design, Inc..	Lynchburg, VA, (804) 845-6424.	VOLA-TOX1, Gas Pressure Device.

[1] Any device that meets the specifications listed in section 4.2.1. of the method is acceptable.

[2] This device uses a 110 mm filter.

TABLE 4.—SUITABLE FILTER HOLDERS [1]

Company	Location	Model/catalogue No.	Size
Nucleopore Corporation.	Pleasanton, CA, (800) 882-7711.	425910 410400	142mm, 47 mm.
Micro Filtration Systems.	Dublin, CA, (800) 334-7132, (415) 828-6010.	302400 311400	142 mm, 47 mm.
Millipore Corpuration.	Bedford, MA, (800) 225-3384.	YT30142HW XX1004700	142 mm, 47 mm.

[1] Any device capable of separating the liquid from the solid phase of the waste is suitable, providing that it is chemically compatible with the waste and the constituents to be analyzed. Plastic devices (not listed above) may be used when only inorganic analytes are of concern. The 142 mm size filter holder is recommended.

TABLE 5.—SUITABLE FILTER MEDIA [1]

Company	Location	Model	Pore Size (μm)
Millipore Corporation.	Bedford, MA, (800) 225-3384.	AP40	0.7
Nucleopore Corporation.	Pleasanton, CA, (415) 463-2530.	211625	0.7
Whatman Laboratory Products, Inc..	Clifton, NJ, (201) 773-5800.	GFF	0.7
Micro Filtration Systems.	Dublin, CA, (800) 334-7132, (415) 828-6010.	GF75	0.7

[1] Any filter that meets the specifications in section 4.4 of the Method is suitable.

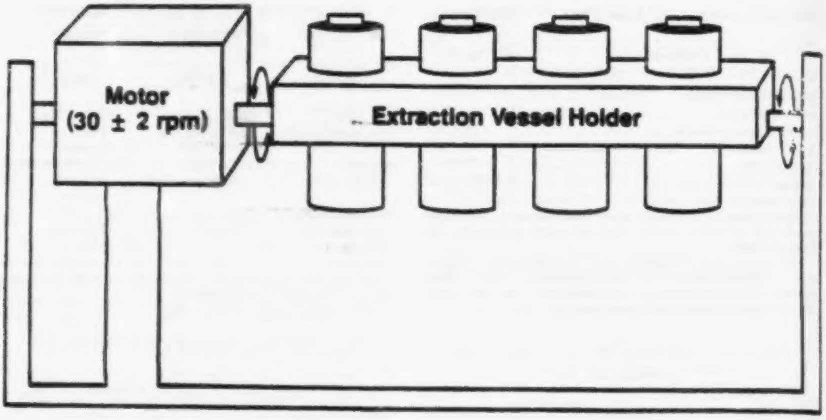

Motor
(30 ± 2 rpm)
Extraction Vessel Holder

Figure 1. Rotary Agitation Apparatus

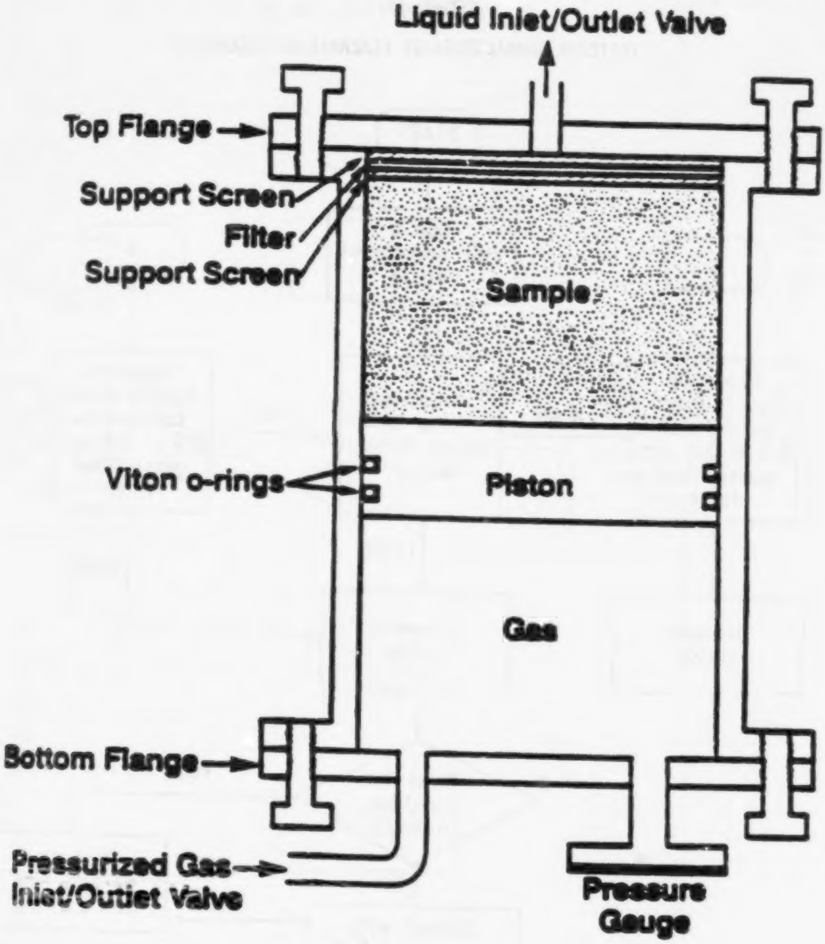
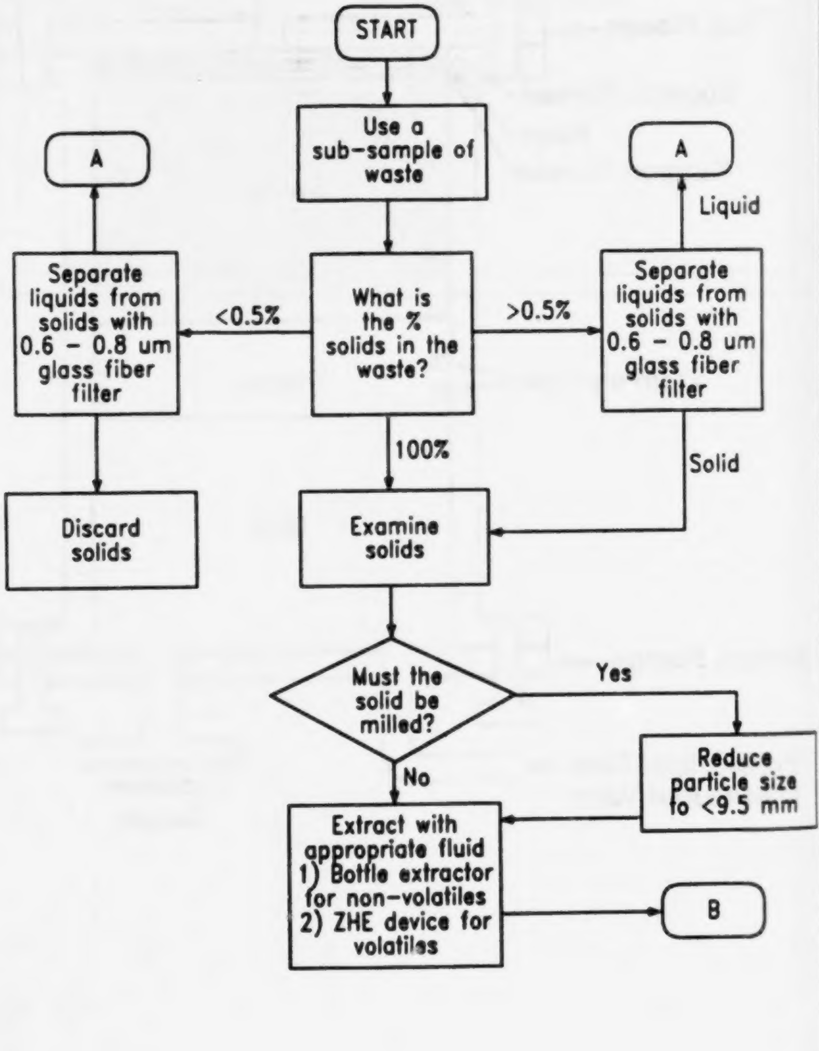

Liquid Inlet/Outlet Valve
Top Flange
Support Screen
Filter
Support Screen
Sample
Viton o-rings
Piston
Gas
Bottom Flange
Pressurized Gas Inlet/Outlet Valve
Pressure Gauge

Figure 2. Zero-Headspace Extractor (ZHE)

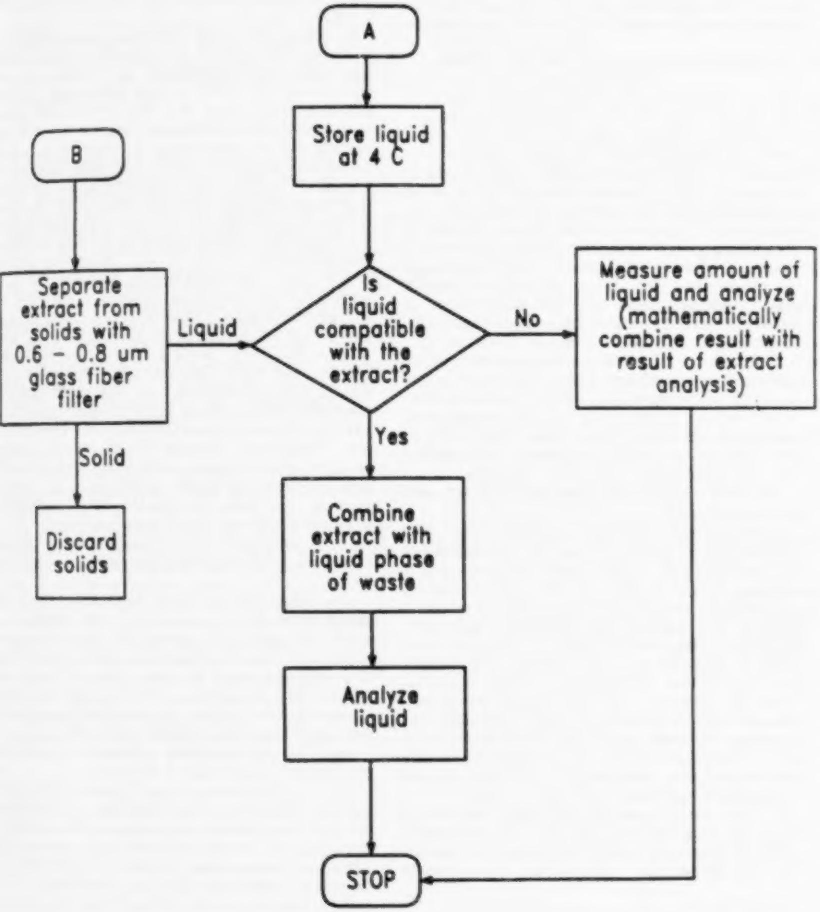
METHOD 1311

TOXICITY CHARACTERISTIC LEACHATE PROCEDURE


START
Use a sub-sample of waste
What is the % solids in the waste?
<0.5%
>0.5%
100%
Separate liquids from solids with 0.6 - 0.8 um glass fiber filter
A
Discard solids
Separate liquids from solids with 0.6 - 0.8 um glass fiber filter
Liquid
A
Solid
Examine solids
Must the solid be milled?
Yes
No
Reduce particle size to <9.5 mm
Extract with appropriate fluid
1) Bottle extractor for non-volatiles
2) ZHE device for volatiles
B

METHOD 1311 (CONTINUED)

TOXICITY CHARACTERISTIC LEACHATE PROCEDURE


A
Store liquid at 4 C
B
Separate extract from solids with 0.6 – 0.8 um glass fiber filter
Liquid
Is liquid compatible with the extract?
No
Measure amount of liquid and analyze (mathematically combine result with result of extract analysis)
Solid
Yes
Discard solids
Combine extract with liquid phase of waste
Analyze liquid
STOP

[55 FR 26987, June 29, 1990]

EFFECTIVE DATE NOTE: At 55 FR 11863, Mar. 29, 1990, Appendix II of Part 261 was revised, effective September 25, 1990. At 55 FR 26987, June 29, 1990, Appendix II of Part 261 was correctly revised, effective September 25, 1990. For the convenience of the user, the superseded text is set forth below:

APPENDIX II—EP TOXICITY TEST PROCEDURES

A. Extraction Procedure (EP)

1. A representative sample of the waste to be tested (minimum size 100 grams) shall be obtained using the methods specified in Appendix I or any other method capable of yielding a representative sample within the meaning of Part 260. [For detailed guidance on conducting the various aspects of the EP see "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (incorporated by reference, see § 260.11).]

2. The sample shall be separated into its component liquid and solid phases using the method described in "Separation Procedure" below. If the solid residue [*] obtained using this method totals less than 0.5% of the original weight of the waste, the residue can be discarded and the operator shall treat the liquid phase as the extract and proceed immediately to Step 8.

3. The solid material obtained from the Separation Procedure shall be evaluated for its particle size. If the solid material has a surface area per gram of material equal to, or greater than, 3.1 cm^2 or passes through a 9.5 mm (0.375 inch) standard sieve, the operator shall proceed to Step 4. If the surface area is smaller or the particle size larger than specified above, the solid material shall be prepared for extraction by crushing, cutting or grinding the material so that it passes through a 9.5 mm (0.375 inch) sieve or, if the material is in a single piece, by subjecting the material to the "Structural Integrity Procedure" described below.

4. The solid material obtained in Step 3 shall be weighed and placed in an extractor with 16 times its weight of deionized water. Do not allow the material to dry prior to weighing. For purposes of this test, an acceptable extractor is one which will impart sufficient agitation to the mixture to not only prevent stratification of the sample and extraction fluid but also insure that all sample surfaces are continuously brought into contact with well mixed extraction fluid.

5. After the solid material and deionized water are placed in the extractor, the operator shall begin agitation and measure the pH of the solution in the extractor. If the pH is greater than 5.0, the pH of the solution shall be decreased to 5.0 ± 0.2 by adding 0.5 N acetic acid. If the pH is equal to or less than 5.0, no acetic acid should be added. The pH of the solution shall be monitored, as described below, during the course of the extraction and if the pH rises above 5.2, 0.5N acetic acid shall be added to bring the pH down to 5.0 ± 0.2. However, in no event shall the aggregate amount of acid added to the solution exceed 4 ml of acid per gram of solid. The mixture shall be agitated for 24 hours and maintained at 20°-40°C (68°-104°F) during this time. It is recommended that the operator monitor and adjust the pH during the course of the extraction with a device such as the Type 45-A pH Controller manufactured by Chemtrix, Inc., Hillsboro, Oregon 97123 or its equivalent, in conjunction with a metering pump and reservoir of 0.5N acetic acid. If such a system is not available, the following manual procedure shall be employed:

(a) A pH meter shall be calibrated in accordance with the manufacturer's specifications.

(b) The pH of the solution shall be checked and, if necessary, 0.5N acetic acid shall be manually added to the extractor until the pH reaches 5.0 ± 0.2. The pH of the solution shall be adjusted at 15, 30 and 60 minute intervals, moving to the next longer interval if the pH does not have to be adjusted more than 0.5N pH units.

(c) The adjustment procedure shall be continued for at least 6 hours.

(d) If at the end of the 24-hour extraction period, the pH of the solution is not below 5.2 and the maximum amount of acid (4 ml per gram of solids) has not been added, the pH shall be adjusted to 5.0 ± 0.2 and the extraction continued for an additional four hours, during which the pH shall be adjusted at one hour intervals.

6. At the end of the 24 hour extraction period, deionized water shall be added to the extractor in an amount determined by the following equation:

$V = (20)(W) - 16(W) - A$

V = ml deionized water to be added

W = weight in grams of solid charged to extractor

A = ml of 0.5N acetic acid added during extraction

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[*] The percent solids is determined by drying the filter pad at 80°C until it reaches constant weight and then calculating the percent solids using the following equation:

Percent solids =

$$\frac{\text{(weight of pad + solid)} - \text{(tare weight of pad)}}{\text{initial weight of sample}} \times 100$$

7. The material in the extractor shall be separated into its component liquid and solid phases as described under "Separation Procedure."

8. The liquids resulting from Steps 2 and 7 shall be combined. This combined liquid (or the waste itself if it has less than ½ percent solids, as noted in Step 2) is the extract and shall be analyzed for the presence of any of the contaminants specified in Table I of § 261.24 using the Analytical Procedures designated below.

Separation Procedure

Equipment: A filter holder, designed for filtration media having a nominal pore size of 0.45 micrometers and capable of applying a 5.3 kg/cm^2 (75 psi) hydrostatic pressure to the solution being filtered, shall be used. For mixtures containing nonabsorptive solids, where separation can be effected without imposing a 5.3 kg/cm^2 pressure differential, vacuum filters employing a 0.45 micrometers filter media can be used. (For further guidance on filtration equipment or procedures see "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" incorporated by reference, see § 260.11). Procedure:[2]

(i) Following manufacturer's directions, the filter unit shall be assembled with a filter bed consisting of a 0.45 micrometer filter membrane. For difficult or slow to filter mixtures a prefilter bed consisting of the following prefilters in increasing pore size (0.65 micrometer membrane, fine glass fiber prefilter, and coarse glass fiber prefilter) can be used.

(ii) The waste shall be poured into the filtration unit.

(iii) The reservoir shall be slowly pressurized until liquid begins to flow from the filtrate outlet at which point the pressure in the filter shall be immediately lowered to 10-15 psig. Filtration shall be continued until liquid flow ceases.

(iv) The pressure shall be increased stepwise in 10 psi increments to 75 psig and filtration continued until flow ceases or the pressurizing gas begins to exit from the filtrate outlet.

(v) The filter unit shall be depressurized, the solid material removed and weighed and then transferred to the extraction apparatus, or, in the case of final filtration prior to analysis, discarded. Do not allow the material retained on the filter pad to dry prior to weighing.

(vi) The liquid phase shall be stored at 4°C for subsequent use in Step 8.

B. Structural Integrity Procedure

Equipment: A Structural Integrity Tester having a 3.18 cm (1.25 in.) diameter hammer weighing 0.33 kg (0.73 lbs.) and having a free fall of 15.24 cm (6 in.) shall be used. This device is available from Associated Design and Manufacturing Company, Alexandria, VA 22314, as Part No. 125, or it may be fabricated to meet the specifications shown in Figure 1.

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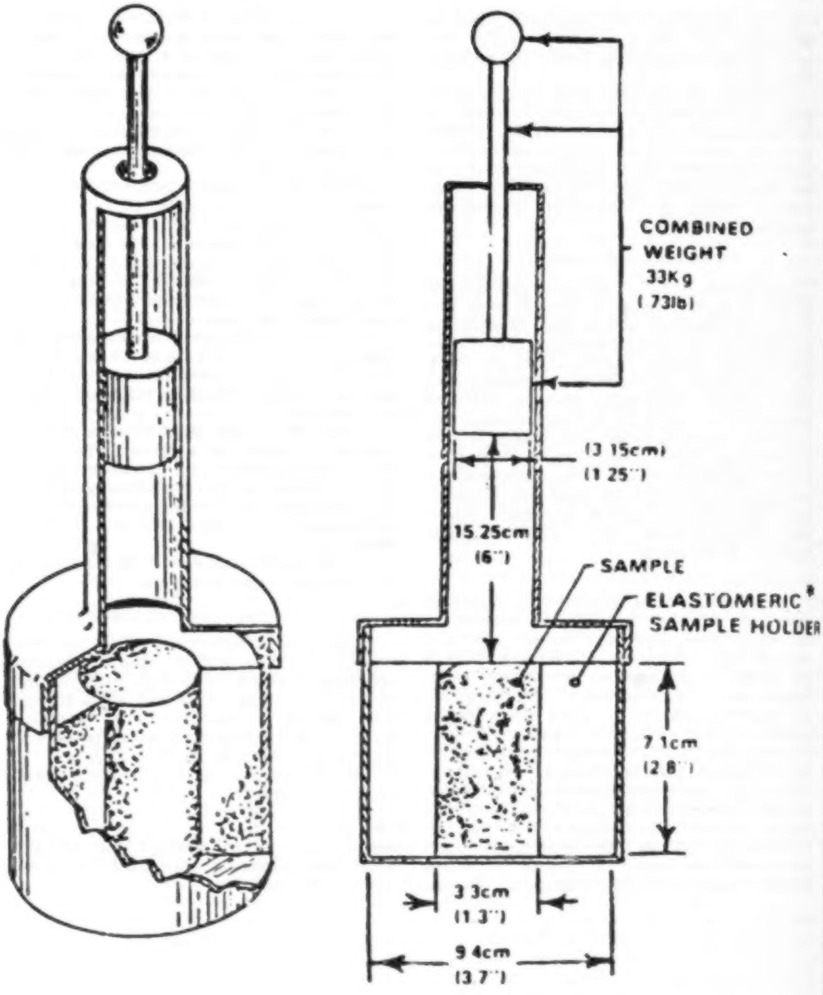
[2] This procedure is intended to result in separation of the "free" liquid portion of the waste from any solid matter having a particle size >0.45 μm. If the sample will not filter, various other separation techniques can be used to aid in the filtration. As described above, pressure filtration is employed to speed up the filtration process. This does not alter the nature of the separation. If liquid does not separate during filtration, the waste can be centrifuged. If separation occurs during centrifugation, the liquid portion (centrifugate) is filtered through the 0.45 μm filter prior to becoming mixed with the liquid portion of the waste obtained from the initial filtration. Any material that will not pass through the filter after centrifugation is considered a solid and is extracted.


COMBINED
WEIGHT
33Kg
(73lb)
(3.15cm)
(1.25")
15.25cm
(6")
SAMPLE
ELASTOMERIC*
SAMPLE HOLDER
7.1cm
(2.8")
3.3cm
(1.3")
9.4cm
(3.7")

*ELASTOMERIC SAMPLE HOLDER FABRICATED OF MATERIAL FIRM ENOUGH TO SUPPORT THE SAMPLE

Figure 1

COMPACTION TESTER

Procedure

1. The sample holder shall be filled with the material to be tested. If the sample of waste is a large monolithic block, a portion shall be cut from the block having the dimensions of a 3.3 cm (1.3 in.) diameter x 7.1 cm (2.8 in.) cylinder. For a fixated waste, samples may be cast in the form of a 3.3 cm (1.3 in.) diameter x 7.1 cm (2.8 in.) cylinder for purposes of conducting this test. In such cases, the waste may be allowed to cure for 30 days prior to further testing.

2. The sample holder shall be placed into the Structural Integrity Tester, then the hammer shall be raised to its maximum height and dropped. This shall be repeated fifteen times.

3. The material shall be removed from the sample holder, weighed, and transferred to the extraction apparatus for extraction.

Analytical Procedures for Analyzing Extract Contaminants

The test methods for analyzing the extract are as follows:

1. For arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver, endrin, lindane, methoxychlor, toxaphene, 2,4-D[2,4-dichlorophenoxyacetic acid] or 2,4,5-TP [2,4,5-trichlorophenoxypropionic acid]: "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (incorporated by reference, see § 260.11).

2. [Reserved]

For all analyses, the methods of standard addition shall be used for quantification of species concentration.

[45 FR 33119, May 19, 1980, as amended at 46 FR 35247, July 7, 1981]

APPENDIX III—CHEMICAL ANALYSIS TEST METHODS

Tables 1, 2, and 3 specify the appropriate analytical procedures, described in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods," (incorporated by reference, see § 260.11) which shall be used to determine whether a sample contains a given Appendix VII or VIII toxic constituent.

Table 1 identifies each Appendix VII or VIII organic constituent along with the approved measurement method. Table 2 identifies the corresponding methods for inorganic species. Table 3 summarizes the contents of SW-846 and supplies specific section and method numbers for sampling and analysis methods.

Prior to final sampling and analysis method selection the analyst should consult the specific section or method described in SW-846 for additional guidance on which of the approved methods should be employed for a specific sample analysis situation.

TABLE 1—ANALYSIS METHODS FOR ORGANIC CHEMICALS CONTAINED IN SW-846

Compound	Method Numbers
Acetonitrile	8030, 8240
Acrolein	8030, 8240
Acrylamide	8015, 8240
Acrylonitrile	8030, 8240
2-Amino-1-methylbenzene (*o*-Toluidine)	8250
4-Amino-1-methylbenzene (*p*-Toluidine)	8250
Aniline	8250
Benzene	8020, 8024
Benz(a)anthracene	8100, 8250, 8310
Benzo(a)pyrene	8100, 8250, 8310
Benzotrichloride	8120, 8
Benzyl chloride	8120, 8250
Benzo(b)fluoanthene	8100, 8250, 8310
Bis(2-chloroethoxymethane)	8010, 8240
Bis(2-chloroethyl)ether	8010, 8240
Bis(2-chloroisopropyl)ether	8010, 8240
Carbon disulfide	8015, 8240
Carbon tetrachloride	8010, 8240
Chlordane	8080, 8250
Chlorinated biphenyls	8080, 8250
Chlorinated dibenzo-*p*-dioxins	8280
Chlorinated dibenzofurans	8280
Chloroacetaldehyde	8010, 8240
Chlorobenzene	8020, 8240
Chloroform	8010, 8240
Chloromethane	8010, 8240
2-Chlorophenol	8040, 8250
Chrysene	8100, 8250, 8310
Creosote[1]	8100, 8250
Cresol(s)	8040, 8250
Cresylic Acid(s)	8040, 8250
Dichlorobenzene(s)	8010, 8120, 8250
Dichloroethane(s)	8010, 8240
Dichloromethane	8010, 8240
Dichlorophenoxyacetic acid	8150, 8250
Dichloropropanol	8120, 8250
Dimethyl sulfate	8250, 8270
1,1-Dimethylhydrazine (UDMH)	8250
2,4-Dimethylphenol	8040, 8250
Dinitrobenzene	8090, 8250
4,6-Dinitro-o-cresol	8040, 8250
2,4-Dinitrotoluene	8090, 8250
2,6-Dinitrotoluene	8060, 8250
Endrin	8080, 8250
2-Ethoxyethanol	8030, 8240
Ethyl ether	8015, 8240
Ethylene dibromide	8010, 8240
Ethylene thiourea	8250, 8330
Formaldehyde	8015, 8240
Formic acid	8250
Heptachlor	8080, 8250
Hexachlorobenzene	8120, 8250
Hexachlorobutadiene	8120, 8250
Hexachloroethane	8010, 8240
Hexachlorocyclopentadiene	8120, 8250
Lindane	8080, 8250
Maleic anhydride	8250
Methanol	8010, 8240
Methomyl	8250
Methyl bromide	8010, 8240, 8260
Methyl ethyl ketone	8015, 8240
Methyl isobutyl ketone	8015, 8240

TABLE 1—ANALYSIS METHODS FOR ORGANIC CHEMICALS CONTAINED IN SW-846—Continued

Compound	Method Numbers
Napthalene	8100, 8250
Napthoquinone	8090, 8250
Nitrobenzene	8090, 8250
4-Nitrophenol	8040, 8240
2-Nitropropane	8030, 8240
Paraldehyde (trimer of acetaldehyde)	8015, 8240
Pentachlorophenol	8040, 8250
Phenol	8040, 8250
Phorate	8140
Phosphorodithioic acid esters	8140
Phthalic anhydride	8090, 8250
2-Picoline	8090, 8250
Pyridine	8090, 8250
Tetrachlorobenzene(s)	8120, 8250
Tetrachloroethane(s)	8010, 8240
Tetrachloroethene	8010, 8240
Tetrachlorophenol	8040, 8250
Toluene	8020, 8024
Toluene diisocyanate(s)	8250
Toluenediamine	8250
2,4-Toluenediamine	8250
2,6-Toluenediamine	8250
3,4-Toluenediamine	8250
Toxaphene	8080, 8250
Trichloroethane	8010, 8240
Trichloroethene(s)	8010, 8240
Trichlorofluoromethane	8010, 8240
Trichlorophenol(s)	8040, 8250
2,4,5-Trichlorophenoxy propionic acid	8150, 8250
Trichloropropane	8010, 8240
Vinyl chloride	8010, 8240
Vinylidene chloride	8010, 8240
Xylene	8020, 8240

[1] Analyne for phenanthrene and carbazole; if these are present in a ratio between 1.4:1 and 5:1 creosote should be considered present.

TABLE 2—ANALYSIS METHODS FOR INORGANIC CHEMICALS AND MISCELLANEOUS GROUPS OF ANALYTES CONTAINED IN SW-846[a]

Compound	Third Edition Method(s)	Second Edition Method(s)
Aluminum	6010	
Antimony	6010	7040, 7041
Arsenic	6010	7060,7061
Barium	6010	7080, 7081
Beryllium	6010, 7090, 7091	
Boron	6010	

TABLE 2—ANALYSIS METHODS FOR INORGANIC CHEMICALS AND MISCELLANEOUS GROUPS OF ANALYTES CONTAINED IN SW-846[a]—Continued

Compound	Third Edition Method(s)	Second Edition Method(s)
Cadmium	6010	7130, 7131
Calcium	6010	
Chromium	6010	7190, 7191
Chromium, Hexavalent	7198	7195, 7196, 7197
Cobalt	6010	
Copper	6010, 7210, 7211	
Iron	6010, 7380, 7381	
Lead	6010	7420, 7421
Magnesium	6010	
Manganese	6010, 7460, 7461	
Mercury		7470, 7471
Molybdenum	6010	
Nickel	6010	7520, 7521
Osmium	7550	
Potassium	6010	
Selenium	6010	7740, 7741
Silicon	6010	
Silver	6010	7760, 7761
Sodium	6010, 7770	
Thallium	6010, 7840, 7841	
Vanadium	6010, 7910, 7911	
Zinc	6010, 7950, 7951	
Cyanides		9010
Total Organic Halides	9022	9020
Sulfides		9030
Sulfates	9035, 9036, 9038	
Total Organic Carbon	9060	
Phenolics	9065, 9066[*], 9067	
Oil and Grease	9070, 9071	
Total Coliform	9131, 9132	
Nitrate	9200	
Chlorides	9250, 9251, 9252	
Gross Alpha and Gross Beta	9310	
Alpha-Emitting Radium Isotopes	9315	
Radium-228	9320	

[a] The Third Edition of SW-846 and its Revision I ar available from the Government Printing Office, Superintendent of Documents, Washington, DC 20402, (202) 783-3238 document number 955-001-00000-1.

[*] When Method 9066 is used it must be preceded by the manual distillation specified in procedure 7.1 of Method 9065. Just prior to distillation in Method 9065, adjust the sulfuric acid preserved sample to pH 4 with 1+9 NaOH. After the manual distillation is completed, the autoanalyzer manifold is simplified by connecting the re-sample line directly to the sampler.

TABLE 3—SAMPLING AND ANALYSIS METHODS CONTAINED IN SW-846[a]

Title	Third Edition		Second Edition	
	Section No.	Method No.	Section No.	Method No.
Quality Control	1.0		10.0	
Introduction	1.1		10.1	
Quality Control	1.2			

TABLE 3—SAMPLING AND ANALYSIS METHODS CONTAINED IN SW-846 *—Continued

Title	Third Edition		Second Edition	
	Section No	Method No	Section No	Method No.
Method Detection Limit	1.3			
Data Reporting	1.4			
Quality Control Documentation	1.5			
References	1.6			
oosing the Correct Procedure	2.0			
Purpose	2.1			
Required Information	2.2			
Implementing the Guidance	2.3			
Characteristics	2.4			
Ground Water	2.5			
References	2.6			
etallic Analytes	3.0			
Sampling Considerations	3.1			
Sample Preparation Methods	3.2			
Acid Digestion of Waters for Total Recoverable or Dissolved Metals for Analysis by Flame AAS or ICP	3.2	3005		
Acid Digestion of Aqueous Samples and Extracts for Total Metals for Analysis by Flame AAS or ICP	3.2	3010	4.1	3010
Acid Digestion of Aqueous Samples and Extracts for Total Metals for Analysis by Furnace AAS	3.2	3020	4.1	3020
Dissolution Procedure for Oils, Greases, or Waxes	3.2	3040	4.1	3040
Acid Digestion of Sediments, Sludges and Soils	3.2	3050	4.1	3050
Methods for the Determination of Metals	3.3			
Inductively Coupled Plasma Atomic Emissions Spectroscopy	3.3	*6010		
Atomic Absorption Methods	3.3	7000		
Aluminum, Flame AAS	3.3	7020		
Antimony, Flame AAS	3.3	7040	7.0	7040
Antimony, Furnace AAS	3.3	7041	7.0	7041
Arsenic, Furnace AAS	3.3	7060	7.0	7060
Arsenic, Gaseous Hydride AAS	3.3	7061	7.0	7061
Barium, Flame AAS	3.3	7080	7.0	7080
Barium, Furnace AAS	3.3	7081	7.0	7081
Beryllium, Flame AAS	3.3	*7090		
Beryllium, Furnace AAS	3.3	*7091		
Cadmium, Flame AAS	3.3	7130	7.0	7130
Cadmium, Furnace AAS	3.3	7131	7.0	7131
Calcium, Flame AAS	3.3	7140		
Chromium, Flame AAS	3.3	7190	7.0	7190
Chromium, Furnace AAS	3.3	7191	7.0	7191
Chromium, Hexavalent, Coprecipitation	3.3	7195	7.0	7195
Chromium, Hexavalent, Colorimetric	3.3	7196	7.0	7196
Chromium, Hexavalent, Chelation/Extraction	3.3	7197	7.0	7197
Chromium, Hexavalent, Differential Pulse Polarography	3.3	*7198		
Cobalt, Flame AAS	3.3	7200		
Cobalt, Furnace AAS	3.3	7201		
Copper, Flame AAS	3.3	*7210		
Copper, Furnace AAS	3.3	*7211		
Iron, Flame AAS	3.3	*7380		
Iron, Furnace AAS	3.3	*7381		
Lead, Flame AAS	3.3	7420	7.0	7420
Lead, Furnace AAS	3.3	7421	5.0	7421
Magnesium, Flame AAS	3.3	7450		
Manganese, Flame AAS	3.3	*7460		
Manganese, Furnace AAS	3.3	*7461		
Mercury in Liquid Waste, Manual Cold Vapor Technique	3.3	7470	7.0	7470
Mercury in Solid or Semisolid Waste, Manual Cold Vapor Technique	3.3	7471	7.0	7471
Molybdenum, Flame AAS	3.3	7480		
Molybdenum, Furnace AAS	3.3	7481		
Nickel, Flame AAS	3.3	7520	7.0	7520
Osmium, Flame AAS	3.3	*7550		
Potassium, Flame AAS	3.3	7610		
Selenium, Furnace AAS	3.3	7740	7.0	7740
Selenium, Gaseous Hydride AAS	3.3	7741	7.0	7741
Silver, Flame AAS	3.3	7760	7.0	7760
Silver, Furnace AAS	3.3	7761	7.0	7761
Sodium, Flame AAS	3.3	*7770		

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TABLE 3—SAMPLING AND ANALYSIS METHODS CONTAINED IN SW-846 *—Continued

Title	Third Edition		Second Edition	
	Section No.	Method No.	Section No.	Method No.
Thallium, Flame AAS	3.3	*7840		
Thallium, Furnace AAS	3.3	*7841		
Tin, Flame AAS	3.3	7870		
Vanadium, Flame AAS	3.3	*7910		
Vanadium, Furnace AAS	3.3	*7911		
Zinc, Flame AAS	3.3	*7950		
Zinc, Furnace AAS	3.3	*7951		
Organic Analytes	4.0		8.0	
Sampling Considerations	4.1			
Sample Preparation Methods	4.2			
Extractions and Preparations	4.2.1			
Organic Extraction and Sample Preparation	4.2.1	3500		
Separatory Funnel Liquid-Liquid Extraction	4.2.1	3510	4.2	3510
Continuous Liquid-Liquid Extraction	4.2.1	3520	4.2	3520
Soxhlet Extraction	4.2.1	3540	4.2	3540
Ultrasonic Extraction	4.2.1	3550	4.2	3550
Waste Dilution	4.2.1	3580		
Purge-and-Trap	4.2.1	5030	5.0	5030
Protocol for Analysis of Sorbent Cartridges from VOST	4.2.1	*5040		
Cleanup	4.2.2			
Cleanup	4.2.2	3600		
Alumina Column Cleanup	4.2.2	3610		
Alumina Column Cleanup and Separation of Petroleum Wastes	4.2.2	*3611		
Florisil Column Cleanup	4.2.2	3620		
Silica Gel Cleanup	4.2.2	3630		
Gel-Permeation Cleanup	4.2.2	3640		
Acid-Base Partition Cleanup	4.2.2	3650	4.2	3530
Sulfur Cleanup	4.2.2	3660		
Determination of Organic Analytes	4.3			
Gas Chromatographic Methods	4.3.1		8.1	
Gas Chromatography	4.3.1	8000		
Halogenated Volatile Organics	4.3.1	8010	8.1	8010
EDB and DBCP	4.3.1	8011		
Nonhalogenated Volatile Organics	4.3.1	8015	8.1	8015
Aromatic Volatile Organics	4.3.1	8020	8.1	8020
Volatile Organic Compounds in Water by Purge-and-Trap Capillary Column GC with PID and Electrolytic Conductivity Detector in Series	4.3.1	8021		
Acrolein, Acrylonitrile, Acetonitrile	4.3.1	8030	8.1	8030
Phenols	4.3.1	8040	8.1	8040
Phthalate Esters	4.3.1	8060	8.1	8060
Nitrosamines	4.3.1	8070		
Organochlorine Pesticides and PCBs as Aroclors	4.3.1	8080	8.1	8080
Nitroaromatics and Cyclic Ketones	4.3.1	8090	8.1	8090
Polynuclear Aromatic Hydrocarbons	4.3.1	8100	8.1	8100
Haloethers	4.3.1	8110		
Chlorinated Hydrocarbons	4.3.1	8120	8.1	8120
Organophosphorus Pesticides	4.3.1	8140	8.1	8140
Organophosphorus Pesticides Capillary Column	4.3.1	8141		
Chlorinated Herbicides	4.3.1	8150	8.1	8150
Gas Chromatographic/Mass Spectroscopic Methods	4.3.2		8.2	
GC/MS Volatiles	4.3.2	8240	8.2	8240
GC/MS Semivolatiles, Packed Column	4.3.2	8250	8.2	8250
GC/MS for Volatiles Capillary Column	4.3.2	8260		
GC/MS Semivolatiles, Capillary Column	4.3.2	8270	8.2	8270
Analysis of Chlorinated Dioxins and Dibenzofurans	4.3.2	8280		
High Performance Liquid Chromatographic Methods (HPLC)	4.3.3		8.3	
Polynuclear Aromatic Hydrocarbons	4.3.3	8310	8.3	8310
Miscellaneous Screening Methods	4.4			
Headspace	4.4	3810	5.0	5020
Hexadecane Extraction and Screening of Purgeable Organics	4.4	3820		
Miscellaneous Test Methods	5.0		9.0	

TABLE 3—SAMPLING AND ANALYSIS METHODS CONTAINED IN SW-846 *—Continued

Title	Third Edition		Second Edition	
	Section No.	Method No.	Section No.	Method No.
Total and Amenable Cyanide (Colorimetric, Manual)	5.0	9010	9.0	9010
Total and Amenable Cyanide (Colorimetric, Automated)	5.0	9012		
Total Organic Halides (TOX)	5.0	9020	9.0	9020
Purgeable Organic Halides (POX)	5.0	9021		
Total Organic Halides (TOX) by Neutron Activation Analysis	5.0	*9022		
Acid-Soluble and Acid-Insoluble Sulfides	5.0	9030	9.0	9030
Extractable Sulfides	5.0	9031		
Sulfate, (Colorimetric, Automated, Chloranilate)	5.0	*9035		
Sulfate, (Colorimetric, Automated, Methylthymol Blue, AA II)	5.0	*9036		
Sulfate, (Turbidimetric)	5.0	*9038		
Total Organic Carbon	5.0	*9060		
Phenolics, (Spectrophotometric, Manual 4-AAP)	5.0	*9065		
Phenolics, (Colorimetric, Automated 4-AAP)	5.0	*9066		
Phenolics, (Spectrophotometric, MBTH)	5.0	*9067		
Total Recoverable Oil and Grease (Gravimetric, Separatory Funnel Extraction)	5.0	*9070		
Oil and Grease Extraction Method for Sludge Samples	5.0	*9071		
Total Coliform: Multiple Tube Fermentation	5.0	*9131		
Total Coliform: Membrane Filter	5.0	*9132		
Nitrate	5.0	*9200		
Chloride (Colorimetric, Automated Ferricyanide AAI)	5.0	*9250		
Chloride (Colorimetric, Automated Ferricyanide AAII)	5.0	*9251		
Chloride (Titrimetric, Mercuric Nitrate)	5.0	*9252		
operties	6.0			
Multiple Extraction Procedure	6.0	*1320		
Extraction Procedure for Oily Wastes	6.0	*1330		
pH Electrometric Measurement	6.0	9040	9.0	9040
pH Paper Method	6.0	9041		
Soil pH	6.0	9045		
Specific Conductance	6.0	9050		
Cation-Exchange Capacity of Soils (Ammonium Acetate)	6.0	*9080		
Cation-Exchange Capacity of Soils (Sodium Acetate)	6.0	*9081		
Compatibility Test for Wastes and Membrane Liners	6.0	9090		
Paint Filter Liquids Test	6.0	9095	9.0	9095
Saturated Hydraulic Conductivity, Saturated Leachate Conductivity, and Intrinsic Permeability	6.0	*9100		
Gross Alpha and Gross Beta	6.0	*9310		
Alpha-Emitting Radium Isotopes	6.0	*9315		
Radium-228	6.0	*9320		
roduction and Regulatory Definitions	7.0		2.0	
Ignitability	7.1		2.1.1	
Corrosivity	7.2		2.1.2	
Reactivity	7.3		2.1.3	
Test Method to Determine Hydrogen Cyanide Released from Wastes	7.3			
Test Method to Determine Hydrogen Sulfide Released from Wastes	7.3			
Extraction Procedure Toxicity	7.4		2.1.4	
ethods for Determining Characteristics	8.0		2.0	
Ignitability	8.1		2.1.1	
Pensky-Martens Closed-Cup Method	8.1	1010	2.1.1	1010
Setaflash Closed-Cup Method	8.1	1020	2.1.1	1020
Corrosivity	8.2		2.1.2	
Corrosivity Toward Steel	8.2	1110	2.1.2	1110
Reactivity	8.3		2.1.3	
Toxicity	8.4		2.1.4	
Extraction Procedure (EP) Toxicity Test Method and Structural Integrity Test	8.4	1310	2.1.4	1310
ampling Plan	9.0		1.0	
Design and Development	9.1		1.0, 1.1	
Implementation	9.2		1.2, 1.3, 1.4	
ampling Methods	10.0			
Modified Method 5 Sampling Train, Appendix A and B	10.0	*0010		
Source Assessment Sampling System (SASS)	10.0	*0020		
Volatile Organic Sampling Train	10.0	*0030		
round Water Monitoring	11.0			
Background and Objectives	11.1			
Relationship to the Regulations and to Other Documents	11.2			

TABLE 3—SAMPLING AND ANALYSIS METHODS CONTAINED IN SW-846 *—Continued

Title	Third Edition		Second Edi	
	Section No.	Method No.	Section No.	Meth No.
Revisions and Additions	11.3			
Acceptable Designs and Practices	11.4			
Unacceptable Designs and Practices	11.5			
Land Treatment Monitoring	12.0			
Background	12.1			
Treatment Zone	12.2			
Regulatory Definition	12.3			
Monitoring and Sampling Strategy	12.4			
Analysis	12.5			
References and Bibliography	12.6			
Incineration	13.0			
Introduction	13.1			
Regulatory Definition	13.2			
Waste Characterization Strategy	13.3			
Stack-Gas Effluent Characterization Strategy	13.4			
Additional Effluent Characterization Strategy	13.5			
Selection of Specific Sampling and Analysis Methods	13.6			
References	13.7			

The Third Edition of SW-846 and its Revision are available from the Government Printing Office, Superintendent of Docum Washington, DC 20402, (202) 738-3238, document number 955-001-00000-1.

*This method may be used in conjunction with or in addition to the methods found in the Second Edition of SW-84 amended by Updates I and II.

When Method 9066 is used it must be preceded by the manual distillation specified in procedure 7.1 of Method 9065. prior to distillation in Method 9065, adjust the sulfuric acid-preserved sample to pH 4 with 1+9 NaOH. After the ma distillation is completed, the autoanalyzer manifold is simplified by connecting the re-sample line directly to the sam

[48 FR 15257, Apr. 8, 1983, as amended at 50 FR 2000, Jan. 14, 1985; 50 FR 42942, Oct. 2 1985; 51 FR 5330, Feb. 13, 1986; 51 FR 6541, Feb. 25, 1986; 51 FR 37729, Oct. 24, 1986; 54 F 41407, Oct. 6, 1989; 54 FR 40267, Sept. 29, 1989; 55 FR 8950, Mar. 9, 1990; 55 FR 18505, Ma 2, 1990]

EFFECTIVE DATE NOTE: At 55 FR 18505, May 2, 1990, Table 1 of Appendix III of Part 261 w amended by adding the entry for "1,1-Dimethylhydrazine (UMDH)" effective November 1990.

APPENDIX IV—[RESERVED FOR RADIOACTIVE WASTE TEST METHODS]

APPENDIX V—[RESERVED FOR INFECTIOUS WASTE TREATMENT SPECIFICATIONS]

APPENDIX VI—[RESERVED FOR ETIOLOGIC AGENTS]

APPENDIX VII—BASIS FOR LISTING HAZARDOUS WASTE

EPA hazardous waste No.	Hazardous constituents for which listed
F001	Tetrachloroethylene, methylene chloride trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, chlorinated fluorocarbons.
F002	Tetrachloroethylene, methylene chloride, trichl oethylene, 1,1,1-trichloroethane, 1,1,2-trichl oethane, chlorobenzene, 1,1,2-trichloro-1,2, trichfluoroethane, ortho-dichlorobenzene, tri lorofluoromethane.
F003	N.A.
F004	Cresols and cresylic acid, nitrobenzene.
F005	Toluene, methyl ethyl ketone, carbon disulf isobutanol, pyridine, 2-ethoxyethanol, benz 2-nitropropane.
F006	Cadmium, hexavalent chromium, nickel, cya (complexed).
F007	Cyanide (salts).
F008	Cyanide (salts).
F009	Cyanide (salts).
F010	Cyanide (salts).
F011	Cyanide (salts).
F012	Cyanide (complexed).
F019	Hexavalent chromium, cyanide (complexed).
F020	Tetra- and pentachlorodibenzo-p-dioxins; and pentachlorodi-benzofurans; tri- tetrachlorophenols and their chlorophenoxy rivative acids, esters, ethers, amine and o salts.

EPA hazardous waste No.	Hazardous constituents for which listed
021	Penta- and hexachlorodibenzo-*p*-dioxins; penta- and hexachlorodibenzofurans; pentachlorophenol and its derivatives.
022	Tetra-, penta-, and hexachlorodibenzo-*p*-dioxins; tetra-, penta-, and hexachlorodibenzofurans.
023	Tetra-, and pentachlorodibenzo-*p*-dioxins; tetra- and pentachlorodibenzofurans; tri- and tetrachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts.
024	Chloromethane, dichloromethane, trichloromethane, carbon tetrachloride, chloroethylene, 1,1-dichloroethane, 1,2-dichloroethane, trans-1-2-dichloroethylene, 1,1-dichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethylene, 1,1,1,2-tetra-chloroethane, 1,1,2,2-tetrachloroethane, tetrachloroethylene, pentachloroethane, hexachloroethane, allyl chloride (3-chloropropene), dichloropropane, dichloropropene, 2-chloro-1,3-butadiene, hexachloro-1,3-butadiene, hexachlorocyclopentadiene, hexachlorocyclohexane, benzene, chlorbenzene, dichlorobenzenes, 1,2,4-trichlorobenzene, tetrachlorobenzene, pentachlorobenzene, hexachlorobenzene, toluene, naphthalene.
025	Chloromethane; Dichloromethane; Trichloromethane; Carbon tetrachloride; Chloroethylene; 1,1-Dichloroethane; 1,2-Dichloroethane; trans-1,2-Dichloroethylene; 1,1-Dichloroethylene; 1,1,1-Trichloroethane; 1,1,2-Trichloroethane; Trichloroethylene; 1,1,1,2-Tetrachloroethane; 1,1,2,2-Tetrachloroethane; Tetrachloroethylene; Pentachloroethane; Hexachloroethane; Allyl chloride (3-Chloropropene); Dichloropropane; Dichloropropene; 2-Chloro-1,3-butadiene; Hexachloro-1,3-butadiene; Hexachlorocyclopentadiene; Benzene; Chlorobenzene; Dichlorobenzene; 1,2,4-Trichlorobenzene; Tetrachlorobenzene; Pentachlorobenzene; Hexachlorobenzene; Toluene; Naphthalene.
026	Tetra-, penta-, and hexachlorodibenzo-*p*-dioxins; tetra-, penta-, and hexachlorodibenzofurans.
027	Tetra-, penta-, and hexachlorodibenzo-*p*-dioxins; tetra-, penta-, and hexachlorodibenzofurans; tri-, tetra-, and pentachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts.
028	Tetra-, penta-, and hexachlorodibenzo-*p*-dioxins; tetra-, penta-, and hexachlorodibenzofurans; tri-, tetra-, and pentachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts.
039	All constituents for which treatment standards are specified for multi-source leachate (wastewaters and nonwastewaters) under 40 CFR 268.43(a), Table CCW.
001	Pentachlorophenol, phenol, 2-chlorophenol, p-chloro-m-cresol, 2,4-dimethylphenyl, 2,4-dinitrophenol, trichlorophenols, tetrachlorophenols, 2,4-dinitrophenol, cresosote, chrysene, naphthalene, fluoranthene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benz(a)anthracene, dibenz(a)anthracene, acenaphthalene.
002	Hexavalent chromium, lead
003	Hexavalent chromium, lead.
004	Hexavalent chromium.
005	Hexavalent chromium, lead.
006	Hexavalent chromium.
007	Cyanide (complexed), hexavalent chromium.
K008	Hexavalent chromium.
K009	Chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid.
K010	Chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid, chloroacetaldehyde.
K011	Acrylonitrile, acetonitrile, hydrocyanic acid.
K013	Hydrocyanic acid, acrylonitrile, acetonitrile.
K014	Acetonitrile, acrylamide.
K015	Benzyl chloride, chlorobenzene, toluene, benzotrichloride.
K016	Hexachlorobenzene, hexachlorobutadiene, carbon tetrachloride, hexachloroethane, perchloroethylene.
K017	Epichlorohydrin, chloroethers [bis(chloromethyl) ether and bis (2-chloroethyl) ethers], trichloropropane, dichloropropanols.
K018	1,2-dichloroethane, trichloroethylene, hexachlorobutadiene, hexachlorobenzene.
K019	Ethylene dichloride, 1,1,1-trichloroethane, 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane and 1,1,1,2-tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride.
K020	Ethylene dichloride, 1,1,1-trichloroethane, 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane and 1,1,1,2-tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride.
K021	Antimony, carbon tetrachloride, chloroform.
K022	Phenol, tars (polycyclic aromatic hydrocarbons).
K023	Phthalic anhydride, maleic anhydride.
K024	Phthalic anhydride, 1,4-naphthoquinone.
K025	Meta-dinitrobenzene, 2,4-dinitrotoluene.
K026	Paraldehyde, pyridines, 2-picoline.
K027	Toluene diisocyanate, toluene-2, 4-diamine.
K028	1,1,1-trichloroethane, vinyl chloride.
K029	1,2-dichloroethane, 1,1,1-trichloroethane, vinyl chloride, vinylidene chloride, chloroform.
K030	Hexachlorobenzene, hexachlorobutadiene, hexachloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, ethylene dichloride.
K031	Arsenic.
K032	Hexachlorocyclopentadiene.
K033	Hexachlorocyclopentadiene.
K034	Hexachlorocyclopentadiene.
K035	Creosote, chrysene, naphthalene, fluoranthene benzo(b) fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd) pyrene, benzo(a)anthracene, dibenzo(a)anthracene, acenaphthalene.
K036	Toluene, phosphorodithioic and phosphorothioic acid esters.
K037	Toluene, phosphorodithioic and phosphorothioic acid esters.
K038	Phorate, formaldehyde, phosphorodithioic and phosphorothioic acid esters.
K039	Phosphorodithioic and phosphorothioic acid esters.
K040	Phorate, formaldehyde, phosphorodithioic and phosphorothioic acid esters.
K041	Toxaphene.
K042	Hexachlorobenzene, ortho-dichlorobenzene.
K043	2,4-dichlorophenol, 2,6-dichlorophenol, 2,4,6-trichlorophenol.
K044	N.A.
K045	N.A.
K046	Lead.

EPA hazardous waste No.	Hazardous constituents for which listed
K047	N.A.
K048	Hexavalent chromium, lead.
K049	Hexavalent chromium, lead.
K050	Hexavalent chromium.
K051	Hexavalent chromium, lead.
K052	Lead.
K060	Cyanide, napthalene, phenolic compounds, arsenic.
K061	Hexavalent chromium, lead, cadmium.
K062	Hexavalent chromium, lead.
K064	Lead, cadmium.
K065	Do.
K066	Do.
K069	Hexavalent chromium, lead, cadmium.
K071	Mercury.
K073	Chloroform, carbon tetrachloride, hexacholroethane, trichloroethane, tetrachloroethylene, dichloroethylene, 1,1,2,2-tetrachloroethane.
K083	Aniline, diphenylamine, nitrobenzene, phenylenediamine.
K084	Arsenic.
K085	Benzene, dichlorobenzenes, trichlorobenzenes, tetrachlorobenzenes, pentachlorobenzene, hexachlorobenzene, benzyl chloride.
K086	Lead, hexavalent chromium.
K087	Phenol, naphthalene.
K088	Cyanide (complexes).
K090	Chromium.
K091	Do.
K093	Phthalic anhydride, maleic anhydride.
K094	Phthalic anhydride.
K095	1,1,2-trichloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane.
K096	1,2-dichloroethane, 1,1,1-trichloroethane, 1,1,2-trichloroethane.
K097	Chlordane, heptachlor.
K098	Toxaphene.
K099	2,4-dichlorophenol, 2,4,6-trichlorophenol.
K100	Hexavalent chromium, lead, cadmium.
K101	Arsenic.
K102	Arsenic.
K103	Aniline, nitrobenzene, phenylenediamine.
K104	Aniline, benzene, diphenylamine, nitrobenzene, phenylenediamine.
K105	Benzene, monochlorobenzene, dichlorobenzenes, 2,4,6-trichlorophenol.
K106	Mercury.
K107	1,1-Dimethylhydrazine (UDMH).
K108	1,1-Dimethylhydrazine (UDMH).
K109	1,1-Dimethylhydrazine (UDMH).
K110	1,1-Dimethylhydrazine (UDMH).
K111	2,4-Dinitrotoluene.
K112	2,4-Toluenediamine, *o*-toluidine, *p*-toluidine, aniline.
K113	2,4-Toluenediamine, *o*-toluidine, *p*-toluidine, aniline.
K114	2,4-Toluenediamine, *o*-toluidine, *p*-toluidine.
K115	2,4-Toluenediamine.
K116	Carbon tetrachloride, tetrachloroethylene, chloroform, phosgene.
K117	Ethylene dibromide.
K118	Ethylene dibromide.
K123	Ethylene thiourea.
K124	Ethylene thiourea.
K125	Ethylene thiourea.
K126	Ethylene thiourea.
K131	Dimethyl sulfate, Methyl bromide.
K132	Methyl bromide.
K136	Ethylene dibromide.

N.A.—Waste is hazardous because it fails the test for the characteristic of ignitability, corrosivity, or reactivity.

[46 FR 4619, Jan. 16, 1981, as amended at 46 FR 27477, May 20, 1981; 49 FR 5312, Feb. 10, 1984; 50 FR 2000, Jan. 14, 1985; 50 FR 42942, Oct. 23, 1985; 51 FR 5330, Feb. 11, 1986; 51 FR 6541, Feb. 25, 1986; 51 FR 37729, Oct. 24, 1986; 54 FR 35421, Sept. 11, 1989; 54 FR 41407, Oct. 6, 1989; 54 FR 50978, Dec. 11, 1989; 55 FR 18505, May 2, 1990; 55 FR 22684, June 1, 1990]

EFFECTIVE DATE NOTE: At 55 FR 18505, May 2, 1990, Appendix VII to Part 261 was amended by adding the entries for EPA hazardous waste numbers K107, K108, K109 and K110, effective November 2, 1990.

APPENDIX VIII—HAZARDOUS CONSTITUENTS

Common name	Chemical abstracts name	Chemical abstracts No.	Hazardous waste No.
Acetonitrile	Same	75-05-8	U003
Acetophenone	Ethanone, 1-phenyl-	98-86-2	U004
2-Acetylaminefluarone	Acetamide, N-9H-fluoren-2-yl-	53-96-3	U005
Acetyl chloride	Same	75-36-5	U006
1-Acetyl-2-thiourea	Acetamide, N-(aminothioxomethyl)-	591-08-2	P002
Acrolein	2-Propenal	107-02-8	P003
Acrylamide	2-Propenamide	79-06-1	U007
Acrylonitrile	2-Propenenitrile	107-13-1	U009
Aflatoxins	Same	1402-68-2	
Aldicarb	Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime.	116-06-3	P070

Common name	Chemical abstracts name	Chemical abstracts No.	Hazardous waste No.
in	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5alpha,8alpha, 8abeta)-.	309-00-2	P004
alcohol	2-Propen-1-ol	107-18-6	P005
chloride	1-Propane, 3-chloro	107-18-6	
minum phosphide	Same	20859-73-8	P006
minobiphenyl	[1,1'-Biphenyl]-4-amine	92-67-1	
minomethyl)-3-isoxazolol	3(2H)-Isoxazolone, 5-(aminomethyl)-	2763-96-4	P007
minopyridine	4-Pyridinamine	504-24-5	P008
trole	1H-1,2,4-Triazol-3-amine	61-82-5	U011
monium vanadate	Vanadic acid, ammonium salt	7803-55-6	P119
ine	Benzenamine	62-53-3	U012
mony	Same	7440-36-0	
mony compounds, N.O.S.[1]			
mite	Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl ester.	140-57-8	
enic	Same	7440-38-2	
enic compounds, N.O.S.[1]			
enic acid	Arsenic acid H_3AsO_4	7778-39-4	P010
enic pentoxide	Arsenic oxide As_2O_5	1303-28-2	P011
enic trioxide	Arsenic oxide As_2O_3	1327-53-3	P012
amine	Benzenamine, 4,4'-carbonimidoylbis[N,N-dimethyl.	492-80-8	U014
serine	L-Serine, diazoacetate (ester)	115-02-6	U015
ium	Same	7440-39-3	
ium compounds, N.O.S.[1]			
ium cyanide	Same	542-62-1	P013
z[c]acridine	Same	225-51-4	U016
z[a]anthracene	Same	56-55-3	U018
zal chloride	Benzene, (dichloromethyl)-	98-87-3	U017
zene	Same	71-43-2	U019
zenearsonic acid	Arsonic acid, phenyl-	98-05-5	
zidine	[1,1'-Biphenyl]-4,4 '-diamine	92-87-5	U021
nzo[b]fluoranthene	Benz[e]acephenanthrylene	205-99-2	
nzo[j]fluoranthene	Same	205-82-3	
nzo[a]pyrene	Same	50-32-8	U022
enzoquinone	2,5-Cyclohexadiene-1,4-dione	106-51-4	U197
nzotrichloride	Benzene, (trichloromethyl)-	98-07-7	U023
nzyl chloride	Benzene, (chloromethyl)-	100-44-7	P028
yllium	Same	7440-41-7	P015
yllium compounds, N.O.S.[1]			
moacetone	2-Propanone, 1-bromo-	598-31-2	P017
moform	Methane, tribromo-	75-25-2	U225
romophenyl phenyl ether	Benzene, 1-bromo-4-phenoxy-	101-55-3	U030
cine	Strychnidin-10-one, 2,3-dimethoxy-	357-57-3	P018
yl benzyl phthalate	1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester.	85-68-7	
codylic acid	Arsinic acid, dimethyl-	75-60-5	U136
dmium	Same	7440-43-9	
dmium compounds, N.O.S.[1]			
cium chromate	Chromic acid H_2CrO_4, calcium salt	13765-19-0	U032
cium cyanide	Calcium cyanide $Ca(CN)_2$	592-01-8	P021
rbon disulfide	Same	75-15-0	P022
rbon oxyfluoride	Carbonic difluoride	353-50-4	U033
rbon tetrachloride	Methane, tetrachloro-	56-23-5	U211
loral	Acetaldehyde, trichloro-	75-87-6	U034
lorambucil	Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]-.	305-03-3	U035
lordane	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-.	57-74-9	U036
lordane (alpha and gamma isomers)			U036
lorinated benzenes, N.O.S.[1]			
lorinated ethane, N.O.S.[1]			
lorinated fluorocarbons, N.O.S.[1]			
lorinated naphthalene, N.O.S.[1]			
lorinated phenol, N.O.S.[1]			
lomaphazin	Naphthalenamine, N,N'-bis(2-chloroethyl)-	494-03-1	U026
loroacetaldehyde	Acetaldehyde, chloro-	107-20-0	P023
loroalkyl ethers, N.O.S.[1]			

Common name	Chemical abstracts name	Chemical abstracts No.	Hazardous waste No.
p-Chloroaniline	Benzenamine, 4-chloro-	106-47-8	P024
Chlorobenzene	Benzene, chloro-	108-90-7	U037
Chlorobenzilate	Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester.	510-15-6	U038
p-Chloro-m-cresol	Phenol, 4-chloro-3-methyl-	59-50-7	U039
2-Chloroethyl vinyl ether	Ethene, (2-chloroethoxy)-	110-75-8	U042
Chloroform	Methane, trichloro-	67-66-3	U044
Chloromethyl methyl ether	Methane, chloromethoxy-	107-30-2	U046
beta-Chloronaphthalene	Naphthalene, 2-chloro-	91-58-7	U047
o-Chlorophenol	Phenol, 2-chloro-	95-57-8	U048
1-(o-Chlorophenyl)thiourea	Thiourea, (2-chlorophenyl)-	5344-82-1	P026
Chloroprene	1,3-Butadiene, 2-chloro-	126-99-8	
3-Chloropropionitrile	Propanenitrile, 3-chloro-	542-76-7	P027
Chromium	Same	7440-47-3	
Chromium compounds, N.O.S.[1]			
Chrysene	Same	218-01-9	U050
Citrus red No. 2	2-Naphthalenol, 1-[(2,5-dimethoxyphenyl)azo]-.	6358-53-8	
Coal tar creosote	Same	8007-45-2	
Copper cyanide	Copper cyanide CuCN	544-92-3	P029
Creosote	Same		U051
Cresol (Cresylic acid)	Phenol, methyl-	1319-77-3	U052
Crotonaldehyde	2-Butenal	4170-30-3	U053
Cyanides (soluble salts and complexes) N.O.S.[1].			P030
Cyanogen	Ethanedinitrile	460-19-5	P031
Cyanogen bromide	Cyanogen bromide (CN)Br	506-68-3	U246
Cyanogen chloride	Cyanogen chloride (CN)Cl	506-77-4	P033
Cycasin	beta-D-Glucopyranoside, (methyl-ONN-azoxy)methyl.	14901-08-7	
2-Cyclohexyl-4,6-dinitrophenol	Phenol, 2-cyclohexyl-4,6-dinitro-	131-89-5	P034
Cyclophosphamide	2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide.	50-18-0	U058
2,4-D	Acetic acid, (2,4-dichlorophenoxy)-	94-75-7	U240
2,4-D, salts, esters			U240
Daunomycin	5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-trideoxy-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)-.	20830-81-3	U059
DDD	Benzene, 1,1′-(2,2-dichloroethylidene)bis[4-chloro-.	72-54-8	U060
DDE	Benzene, 1,1′-(dichloroethenylidene)bis[4-chloro-.	72-55-9	
DDT	Benzene, 1,1′-(2,2,2-trichloroethylidene)bis[4-chloro-.	50-29-3	U061
Diallate	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester.	2303-16-4	U062
Dibenz[a,h]acridine	Same	226-36-8	
Dibenz[a,j]acridine	Same	224-42-0	
Dibenz[a,h]anthracene	Same	53-70-3	U063
7H-Dibenzo[c,g]carbazole	Same	194-59-2	
Dibenzo[a,e]pyrene	Naphtho[1,2,3,4-def]chrysene	192-65-4	
Dibenzo[a,h]pyrene	Dibenzo[b,def]chrysene	189-64-0	
Dibenzo[a,i]pyrene	Benzo[rst]pentaphene	189-55-9	U064
1,2-Dibromo-3-chloropropane	Propane, 1,2-dibromo-3-chloro-	96-12-8	U066
Dibutyl phthalate	1,2-Benzenedicarboxylic acid, dibutyl ester	84-74-2	U069
o-Dichlorobenzene	Benzene, 1,2-dichloro-	95-50-1	U070
m-Dichlorobenzene	Benzene, 1,3-dichloro-	541-73-1	U071
p-Dichlorobenzene	Benzene, 1,4-dichloro-	106-46-7	U072
Dichlorobenzene, N.O.S.[1]	Benzene, dichloro-	25321-22-6	
3,3′-Dichlorobenzidine	[1,1′-Biphenyl]-4,4′-diamine, 3,3′-dichloro-	91-94-1	U073
1,4-Dichloro-2-butene	2-Butene, 1,4-dichloro-	764-41-0	U074
Dichlorodifluoromethane	Methane, dichlorodifluoro-	75-71-8	U075
Dichloroethylene, N.O.S.[1]	Dichloroethylene	25323-30-2	
1,1-Dichloroethylene	Ethene, 1,1-dichloro-	75-35-4	U078
1,2-Dichloroethylene	Ethene, 1,2-dichlrol-, (E)-	156-60-5	U079
Dichloroethyl ether	Ethane, 1,1′oxybis[2-chloro-	111-44-4	U025
Dichloroisopropyl ether	Propane, 2,2′-oxybis[2-chloro-	108-60-1	U027
Dichloromethoxy ethane	Ethane, 1,1′-[methylenebis(oxy)]bis[2-chloro-.	111-91-1	U024
Dichloromethyl ether	Methane, oxybis[chloro-	542-88-1	P016
2,4-Dichlorophenol	Phenol, 2,4-dichloro-	120-83-2	U081

Common name	Chemical abstracts name	Chemical abstracts No.	Hazardous waste No.
2,6-Dichlorophenol	Phenol, 2,6-dichloro-	87-65-0	U082
Dichlorophenylarsine	Arsonous dichloride, phenyl-	696-28-6	P036
Dichloropropane, N.O.S.[1]	Propane, dichloro-	26638-19-7	
Dichloropropanol, N.O.S.[1]	Propanol, dichloro-	26545-73-3	
Dichloropropene, N.O.S.[1]	1-Propene, dichloro-	26952-23-8	
1,3-Dichloropropene	1-Propene, 1,3-dichloro-	542-75-6	U084
Dieldrin	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2beta,2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)-.	60-57-1	P037
1,2:3,4-Diepoxybutane	2,2′-Bioxirane	1464-53-5	U085
Diethylarsine	Arsine, diethyl-	692-42-2	P038
1,4-Diethyleneoxide	1,4-Dioxane	123-91-1	U108
Diethylhexyl phthalate	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester.	117-81-7	U028
N,N′-Diethylhydrazine	Hydrazine, 1,2-diethyl-	1615-80-1	U086
O,O-Diethyl S-methyl dithiophosphate	Phosphorodithioic acid, O,O-diethyl S-methyl ester.	3288-58-2	U087
Diethyl-p-nitrophenyl phosphate	Phosphoric acid, diethyl 4-nitrophenyl ester	311-45-5	P041
Diethyl phthalate	1,2-Benzenedicarboxylic acid, diethyl ester	84-66-2	U088
O,O-Diethyl O-pyrazinyl phosphoro- thioate	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester.	297-97-2	P040
Diethylstilbesterol	Phenol, 4,4′-(1,2-diethyl-1,2-ethenediyl)bis-, (E)-.	56-53-1	U089
Dihydrosafrole	1,3-Benzodioxole, 5-propyl-	94-58-6	U090
Diisopropylfluorophosphate (DFP)	Phosphorofluoridic acid, bis(1-methylethyl) ester.	55-91-4	P043
Dimethoate	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester.	60-51-5	P044
3,3′-Dimethoxybenzidine	[1,1′-Biphenyl]-4,4′-diamine, 3,3′-dimethoxy-	119-90-4	U091
p-Dimethylaminoazobenzene	Benzenamine, N,N-dimethyl-4-(phenylazo)-	60-11-7	U093
7,12-Dimethylbenz[a]anthracene	Benz[a]anthracene, 7,12-dimethyl-	57-97-6	U094
3,3′-Dimethylbenzidine	[1,1′-Biphenyl]-4,4′-diamine, 3,3′-dimethyl-	119-93-7	U095
Dimethylcarbamoyl chloride	Carbamic chloride, dimethyl-	79-44-7	U097
1,1-Dimethylhydrazine	Hydrazine, 1,1-dimethyl-	57-14-7	U098
1,2-Dimethylhydrazine	Hydrazine, 1,2-dimethyl-	540-73-8	U099
alpha,alpha-Dimethylphenethylamine	Benzeneethanamine, alpha,alpha-dimethyl-	122-09-8	P046
2,4-Dimethylphenol	Phenol, 2,4-dimethyl-	105-67-9	U101
Dimethyl phthalate	1,2-Benzenedicarboxylic acid, dimethyl ester	131-11-3	U102
Dimethyl sulfate	Sulfuric acid, dimethyl ester	77-78-1	U103
Dinitrobenzene, N.O.S.[1]	Benzene, dinitro-	25154-54-5	
4,6-Dinitro-o-cresol	Phenol, 2-methyl-4,6-dinitro-	534-52-1	P047
4,6-Dinitro-o-cresol salts			P047
2,4-Dinitrophenol	Phenol, 2,4-dinitro-	51-28-5	P048
2,4-Dinitrotoluene	Benzene, 1-methyl-2,4-dinitro-	121-14-2	U105
2,6-Dinitrotoluene	Benzene, 2-methyl-1,3-dinitro-	606-20-2	U106
Dinoseb	Phenol, 2-(1-methylpropyl)-4,6-dinitro-	88-85-7	P020
Di-n-octyl phthalate	1,2-Benzenedicarboxylic acid, dioctyl ester	117-84-0	U017
Diphenylamine	Benzenamine, N-phenyl-	122-39-4	
1,2-Diphenylhydrazine	Hydrazine, 1,2-diphenyl-	122-66-7	U109
Di-n-propylnitrosamine	1-Propanamine, N-nitroso-N-propyl-	621-64-7	U111
Disulfoton	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester.	298-04-4	P039
Dithiobiuret	Thioimidodicarbonic diamide $[(H_2N)C(S)]_2NH$.	541-53-7	P049
Endosulfan	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide.	115-29-7	P050
Endothall	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid.	145-73-3	P088
Endrin	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octa-hydro-, (1aalpha,2beta,2abeta,3alpha,6alpha,6abeta,7beta,7aalpha)-.	72-20-8	P051
Endrin metabolites			P051
Epichlorohydrin	Oxirane, (chloromethyl)-	106-89-8	U041
Epinephrine	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)-.	51-43-4	P042
Ethyl carbamate (urethane)	Carbamic acid, ethyl ester	51-79-6	U238
Ethyl cyanide	Propanenitrile	107-12-0	P101

Common name	Chemical abstracts name	Chemical abstracts No.	Hazardo waste N
Ethylenebisdithiocarbamic acid	Carbamodithioic acid, 1,2-ethanediylbis-	111-54-6	U
Ethylenebisdithiocarbamic acid, salts and esters.			U
Ethylene dibromide	Ethane, 1,2-dibromo-	106-93-4	U
Ethylene dichloride	Ethane, 1,2-dichloro-	107-06-2	U
Ethylene glycol monoethyl ether	Ethanol, 2-ethoxy-	110-80-5	U
Ethyleneimine	Aziridine	151-56-4	P
Ethylene oxide	Oxirane	75-21-8	U
Ethylenethiourea	2-Imidazolidinethione	96-45-7	U
Ethylidene dichloride	Ethane, 1,1-dichloro-	75-34-3	U
Ethyl methacrylate	2-Propenoic acid, 2-methyl-, ethyl ester	97-63-2	U
Ethyl methanesulfonate	Methanesulfonic acid, ethyl ester	62-50-0	U
Famphur	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O,O-dimethyl ester.	52-85-7	P
Fluoranthene	Same	206-44-0	U
Fluorine	Same	7782-41-4	P
Fluoroacetamide	Acetamide, 2-fluoro-	640-19-7	P
Fluoroacetic acid, sodium salt	Acetic acid, fluoro-, sodium salt	62-74-8	P
Formaldehyde	Same	50-00-0	U
Formic acid	Same	64-18-6	U
Glycidylaldehyde	Oxiranecarboxyaldehyde	765-34-4	U
Halomethanes, N.O.S.[1]			
Heptachlor	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-.	76-44-8	P
Heptachlor epoxide	2,5-Methano-2H-indeno[1,2-b]oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexa- hydro-, (1aalpha,1bbeta,2alpha,5alpha,5abeta,6beta,6aalpha)-.	1024-57-3	
Heptachlor epoxide (alpha, beta, and gamma isomers).			
Hexachlorobenzene	Benzene, hexachloro-	118-74-1	U
Hexachlorobutadiene	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	87-68-3	U
Hexachlorocyclopentadiene	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-	77-47-4	U
Hexachlorodibenzo-p-dioxins			
Hexachlorodibenzofurans			
Hexachloroethane	Ethane, hexachloro-	67-72-1	U
Hexachlorophene	Phenol, 2,2′-methylenebis[3,4,6-trichloro-	70-30-4	U
Hexachloropropene	1-Propene, 1,1,2,3,3,3-hexachloro-	1888-71-7	U
Hexaethyl tetraphosphate	Tetraphosphoric acid, hexaethyl ester	757-58-4	P
Hydrazine	Same	302-01-2	U
Hydrogen cyanide	Hydrocyanic acid	74-90-8	P
Hydrogen fluoride	Hydrofluoric acid	7664-39-3	U
Hydrogen sulfide	Hydrogen sulfide H_2S	7783-06-4	U
Indeno[1,2,3-cd]pyrene	Same	193-39-5	U
Isobutyl alcohol	1-Propanol, 2-methyl-	78-83-1	U
Isodrin	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha,4alpha,4abeta,5beta,8beta,8abeta)-.	465-73-6	P
Isosafrole	1,3-Benzodioxole, 5-(1-propenyl)-	120-58-1	U
Kepone	1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-.	143-50-0	U
Lasiocarpine	2-Butenoic acid, 2-methyl-,7-[[2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy]methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S-[1alpha(Z),7(2S*,3R*),7aalpha]]-	303-34-1	
Lead	Same	7439-92-1	
Lead compounds, N.O.S.[1]			
Lead acetate	Acetic acid, lead(2+) salt	301-04-2	
Lead phosphate	Phosphoric acid, lead(2+) salt (2:3)	7446-27-7	
Lead subacetate	Lead, bis(acetato-O)tetrahydroxytri-	1335-32-6	
Lindane	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)-.	58-89-9	
Maleic anhydride	2,5-Furandione	108-31-6	
Maleic hydrazide	3,6-Pyridazinedione, 1,2-dihydro-	123-33-1	
Malononitrile	Propanedinitrile	109-77-3	
Melphalan	L-Phenylalanine, 4-[bis(2-chloroethyl)amino]-.	148-82-3	

Common name	Chemical abstracts name	Chemical abstracts No.	Hazardous waste No.
Mercury	Same	7439-97-6	U151
Mercury compounds, N.O.S. [1]			
Mercury fulminate	Fulminic acid, mercury(2+) salt	628-86-4	P065
Methacrylonitrile	2-Propenenitrile, 2-methyl-	126-98-7	U152
Methapyrilene	1,2-Ethanediamine, N,N-dimethyl-N′-2-pyridinyl-N′-(2-thienylmethyl)-.	91-80-5	U155
Methomyl	Ethanimidothioic acid, N-[[(methylamino)carbonyl]oxy]-, methyl ester.	16752-77-5	P066
Methoxychlor	Benzene, 1,1′-(2,2,2-trichloroethylidene)bis[4-methoxy-.	72-43-5	U247
Methyl bromide	Methane, bromo-	74-83-9	U029
Methyl chloride	Methane, chloro-	74-87-3	U045
Methyl chlorocarbonate	Carbonochloridic acid, methyl ester	79-22-1	U156
Methyl chloroform	Ethane, 1,1,1-trichloro-	71-55-6	U226
3-Methylcholanthrene	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-	56-49-5	U157
4,4′-Methylenebis(2-chloroaniline)	Benzenamine, 4,4′-methylenebis[2-chloro-	101-14-4	U158
Methylene bromide	Methane, dibromo-	74-95-3	U068
Methylene chloride	Methane, dichloro-	75-09-2	U080
Methyl ethyl ketone (MEK)	2-Butanone	78-93-3	U159
Methyl ethyl ketone peroxide	2-Butanone, peroxide	1338-23-4	U160
Methyl hydrazine	Hydrazine, methyl-	60-34-4	P068
Methyl iodide	Methane, iodo-	74-88-4	U138
Methyl isocyanate	Methane, isocyanato-	624-83-9	P064
2-Methyllactonitrile	Propanenitrile, 2-hydroxy-2-methyl-	75-86-5	P069
Methyl methacrylate	2-Propenoic acid, 2-methyl-, methyl ester	80-62-6	U162
Methyl methanesulfonate	Methanesulfonic acid, methyl ester	66-27-3	
Methyl parathion	Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl) ester.	298-00-0	P071
Methylthiouracil	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-.	56-04-2	U164
Mitomycin C	Azirino[2′,3′:3,4]pyrrolo[1,2-a]indole-4,7-dione, 6-amino-8-[[(aminocarbonyl)oxy]methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-, [1aS-(1aalpha,8beta,8aalpha,8balpha)]-.	50-07-7	U010
MNNG	Guanidine, N-methyl-N′-nitro-N-nitroso-	70-25-7	U163
Mustard gas	Ethane, 1,1′-thiobis[2-chloro-	505-60-2	
Naphthalene	Same	91-20-3	U165
1,4-Naphthoquinone	1,4-Naphthalenedione	130-15-4	U166
alpha-Naphthylamine	1-Naphthalenamine	134-32-7	U167
beta-Naphthylamine	2-Naphthalenamine	91-59-8	U168
alpha-Naphthylthiourea	Thiourea, 1-naphthalenyl-	86-88-4	P072
Nickel	Same	7440-02-0	
Nickel compounds, N.O.S. [1]			
Nickel carbonyl	Nickel carbonyl $Ni(CO)_4$, (T-4)-	13463-39-3	P073
Nickel cyanide	Nickel cyanide $Ni(CN)_2$	557-19-7	P074
Nicotine	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-	54-11-5	P075
Nicotine salts			P075
Nitric oxide	Nitrogen oxide NO	10102-43-9	P076
p-Nitroaniline	Benzenamine, 4-nitro-	100-01-6	P077
Nitrobenzene	Benzene, nitro-	98-95-3	U169
Nitrogen dioxide	Nitrogen oxide NO_2	10102-44-0	P078
Nitrogen mustard	Ethanamine, 2-chloro-N-(2-chloroethyl)-N-methyl-.	51-75-2	
Nitrogen mustard, hydrochloride salt			
Nitrogen mustard N-oxide	Ethanamine, 2-chloro-N-(2-chloroethyl)-N-methyl-, N-oxide.	126-85-2	
Nitrogen mustard, N-oxide, hydro- chloride salt.			
Nitroglycerin	1,2,3-Propanetriol, trinitrate	55-63-0	P081
p-Nitrophenol	Phenol, 4-nitro-	100-02-7	U170
2-Nitropropane	Propane, 2-nitro-	79-46-9	U171
Nitrosamines, N.O.S. [1]		35576-91-1D	
N-Nitrosodi-n-butylamine	1-Butanamine, N-butyl-N-nitroso-	924-16-3	U172
N-Nitrosodiethanolamine	Ethanol, 2,2′-(nitrosoimino)bis-	1116-54-7	U173
N-Nitrosodiethylamine	Ethanamine, N-ethyl-N-nitroso-	55-18-5	U174
N-Nitrosodimethylamine	Methanamine, N-methyl-N-nitroso-	62-75-9	P082
N-Nitroso-N-ethylurea	Urea, N-ethyl-N-nitroso-	759-73-9	U176
N-Nitrosomethylethylamine	Ethanamine, N-methyl-N-nitroso-	10595-95-6	
N-Nitroso-N-methylurea	Urea, N-methyl-N-nitroso-	684-93-5	U177

Common name	Chemical abstracts name	Chemical abstracts No.	Hazardous waste No.
N-Nitroso-N-methylurethane	Carbamic acid, methylnitroso-, ethyl ester	615-53-2	U
N-Nitrosomethylvinylamine	Vinylamine, N-methyl-N-nitroso-	4549-40-0	P
N-Nitrosomorpholine	Morpholine, 4-nitroso-	59-89-2	
N-Nitrosonornicotine	Pyridine, 3-(1-nitroso-2-pyrrolidinyl)-, (S)-	16543-55-8	
N-Nitrosopiperidine	Piperidine, 1-nitroso-	100-75-4	U
N-Nitrosopyrrolidine	Pyrrolidine, 1-nitroso-	930-55-2	U
N-Nitrososarcosine	Glycine, N-methyl-N-nitroso-	13256-22-9	
5-Nitro-o-toluidine	Benzenamine, 2-methyl-5-nitro-	99-55-8	U
Octamethylpyrophosphoramide	Diphosphoramide, octamethyl-	152-16-9	P
Osmium tetroxide	Osmium oxide OsO_4, (T-4)-	20816-12-0	P
Paraldehyde	1,3,5-Trioxane, 2,4,6-trimethyl-	123-63-7	U
Parathion	Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester.	56-38-2	P
Pentachlorobenzene	Benzene, pentachloro-	608-93-5	U
Pentachlorodibenzo-p-dioxins			
Pentachlorodibenzofurans			
Pentachloroethane	Ethane, pentachloro-	76-01-7	U
Pentachloronitrobenzene (PCNB)	Benzene, pentachloronitro-	82-68-8	U
Pentachlorophenol	Phenol, pentachloro-	87-86-5	See F
Phenacetin	Acetamide, N-(4-ethoxyphenyl)-	62-44-2	U
Phenol	Same	108-95-2	U
Phenylenediamine	Benzenediamine	25265-76-3	
Phenylmercury acetate	Mercury, (acetato-O)phenyl-	62-38-4	P
Phenylthiourea	Thiourea, phenyl-	103-85-5	P
Phosgene	Carbonic dichloride	75-44-5	P
Phosphine	Same	7803-51-2	P
Phorate	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester.	298-02-2	P
Phthalic acid esters, N.O.S.[1]			
Phthalic anhydride	1,3-Isobenzofurandione	85-44-9	U
2-Picoline	Pyridine, 2-methyl-	109-06-8	U
Polychlorinated biphenyls, N.O.S.[1]			
Potassium cyanide	Potassium cyanide K(CN)	151-50-8	P
Potassium silver cyanide	Argentate(1-), bis(cyano-C)-, potassium	506-61-6	P
Pronamide	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-.	23950-58-5	U
1,3-Propane sultone	1,2-Oxathiolane, 2,2-dioxide	1120-71-4	U
n-Propylamine	1-Propanamine	107-10-8	U
Propargyl alcohol	2-Propyn-1-ol	107-19-7	P
Propylene dichloride	Propane, 1,2-dichloro-	78-87-5	U
1,2-Propylenimine	Aziridine, 2-methyl-	75-55-8	P
Propylthiouracil	4(1H)-Pyrimidinone, 2,3-dihydro-6-propyl-2-thioxo-.	51-52-5	
Pyridine	Same	110-86-1	U
Reserpine	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-smethyl ester, (3beta,16beta,17alpha,18beta,20alpha)-.	50-55-5	U
Resorcinol	1,3-Benzenediol	108-46-3	U
Saccharin	1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide	81-07-2	U
Saccharin salts			U
Safrole	1,3-Benzodioxole, 5-(2-propenyl)-	94-59-7	U
Selenium	Same	7782-49-2	
Selenium compounds, N.O.S.[1]			
Selenium dioxide	Selenious acid	7783-00-8	U
Selenium sulfide	Selenium sulfide SeS_2	7488-56-4	U
Selenourea	Same	630-10-4	P
Silver	Same	7440-22-4	
Silver compounds, N.O.S.[1]			
Silver cyanide	Silver cyanide Ag(CN)	506-64-9	P
Silvex (2,4,5-TP)	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-	93-72-1	See F
Sodium cyanide	Sodium cyanide Na(CN)	143-33-9	P
Streptozotocin	D-Glucose, 2-deoxy-2-[[(methylnitrosoamino)carbonyl]amino]-.	18883-66-4	U
Strontium sulfide[2]	Strontium sulfide SrS	1314-96-1	P
Strychnine	Strychnidin-10-one	57-24-9	P
Strychnine salts			P
TCDD	Dibenzo[b,e][1,4]dioxin, 2,3,7,8-tetrachloro-	1746-01-6	
1,2,4,5-Tetrachlorobenzene	Benzene, 1,2,4,5-tetrachloro-	95-94-3	U
Tetrachlorodibenzo-p-dioxins			
Tetrachlorodibenzofurans			
Tetrachloroethane, N.O.S.[1]	Ethane, tetrachloro-, N.O.S.	25322-20-7	

Common name	Chemical abstracts name	Chemical abstracts No	Hazardous waste No.
1,1,1,2-Tetrachloroethane	Ethane, 1,1,1,2-tetrachloro-	630-20-6	U208
1,1,2,2-Tetrachloroethane	Ethane, 1,1,2,2-tetrachloro-	79-34-5	U209
Tetrachloroethylene	Ethene, tetrachloro-	127-18-4	U210
2,3,4,6-Tetrachlorophenol	Phenol, 2,3,4,6-tetrachloro-	58-90-2	See F027
Tetraethyldithiopyrophosphate	Thiodiphosphoric acid, tetraethyl ester	3689-24-5	P109
Tetraethyl lead	Plumbane, tetraethyl-	78-00-2	P110
Tetraethyl pyrophosphate	Diphosphoric acid, tetraethyl ester	107-49-3	P111
Tetranitromethane	Methane, tetranitro-	509-14-8	P112
Thallium	Same	7440-28-0	
Thallium compounds, N.O.S.[1]			
Thallic oxide	Thallium oxide Tl_2O_3	1314-32-5	P113
Thallium(I) acetate	Acetic acid, thallium(1+) salt	563-68-8	U214
Thallium(I) carbonate	Carbonic acid, dithallium(1+) salt	6533-73-9	U215
Thallium(I) chloride	Thallium chloride TlCl	7791-12-0	U216
Thallium(I) nitrate	Nitric acid, thallium(1+) salt	10102-45-1	U217
Thallium selenite	Selenious acid, dithallium(1+) salt	12039-52-0	P114
Thallium(I) sulfate	Sulfuric acid, dithallium(1+) salt	7446-18-6	P115
Thioacetamide	Ethanethioamide	62-55-5	U218
Thiofanox	2-Butanone, 3,3-dimethyl-1-(methylthio)-, O-[(methylamino)carbonyl] oxime.	39196-18-4	P045
Thiomethanol	Methanethiol	74-93-1	U153
Thiophenol	Benzenethiol	108-98-5	P014
Thiosemicarbazide	Hydrazinecarbothioamide	79-19-6	P116
Thiourea	Same	62-56-6	U219
Thiram	Thioperoxydicarbonic diamide $[(H_2N)C(S)]_2S_2$, tetramethyl-.	137-26-8	U244
Toluene	Penzene, methyl-	108-88-3	U220
Toluenediamine	Benzenediamine, ar-methyl-	25376-45-8	U221
Toluene-2,4-diamine	1,3-Benzenediamine, 4-methyl-	95-80-7	
Toluene-2,6-diamine	1,3-Benzenediamine, 2-methyl-	823-40-5	
Toluene-3,4-diamine	1,2-Benzenediamine, 4-methyl-	496-72-0	
Toluene diisocyanate	Benzene, 1,3-diisocyanatomethyl-	26471-62-5	U223
o-Toluidine	Benzenamine, 2-methyl-	95-53-4	U328
o-Toluidine hydrochloride	Benzenamine, 2-methyl-, hydrochloride	636-21-5	U222
p-Toluidine	Benzenamine, 4-methyl-	106-49-0	U353
Toxaphene	Same	8001-35-2	P123
1,2,4-Trichlorobenzene	Benzene, 1,2,4-trichloro-	120-82-1	
1,1,2-Trichloroethane	Ethane, 1,1,2-trichloro-	79-00-5	U227
Trichloroethylene	Ethene, trichloro-	79-01-6	U228
Trichloromethanethiol	Methanethiol, trichloro-	75-70-7	P118
Trichloromonofluoromethane	Methane, trichlorofluoro-	75-69-4	U121
2,4,5-Trichlorophenol	Phenol, 2,4,5-trichloro-	95-95-4	See F027
2,4,6-Trichlorophenol	Phenol, 2,4,6-trichloro-	88-06-2	See F027
2,4,5-T	Acetic acid, (2,4,5-trichlorophenoxy)-	93-76-5	See F027
Trichloropropane, N.O.S.[1]		25735-29-9	
1,2,3-Trichloropropane	Propane, 1,2,3-trichloro-	96-18-4	
O,O,O-Triethyl phosphorothioate	Phosphorothioic acid, O,O,O-triethyl ester	126-68-1	
1,3,5-Trinitrobenzene	Benzene, 1,3,5-trinitro-	99-35-4	U234
Tris(1-aziridinyl)phosphine sulfide	Aziridine, 1,1′,1′′-phosphinothioylidynetris-	52-24-4	
Tris(2,3-dibromopropyl) phosphate	1-Propanol, 2,3-dibromo-, phosphate (3:1)	126-72-7	U235
Trypan blue	2,7-Naphthalenedisulfonic acid, 3,3′-[(3,3′-dimethyl[1,1′-biphenyl]-4,4′-diyl)bis(azo)]-bis[5-amino-4-hydroxy-, tetrasodium salt.	72-57-1	U236
Uracil mustard	2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]-	66-75-1	U237
Vanadium pentoxide	Vanadium oxide V_2O_5	1314-62-1	P120
Vinyl chloride	Ethene, chloro-	75-01-4	U043
Warfarin	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, when present at concentrations less than 0.3%.	81-81-2	U248
Warfarin	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, when present at concentrations greater than 0.3%.	81-81-2	P001
Warfarin salts, when present at concentrations less than 0.3%.			U248
Warfarin salts, when present at concentrations greater than 0.3%.			P001
Zinc cyanide	Zinc cyanide $Zn(CN)_2$	557-21-1	P121
Zinc phosphide	Zinc phosphide Zn_3P_2, when present at concentrations greater than 10%.	1314-84-7	P122

Common name	Chemical abstracts name	Chemical abstracts No.	Hazardous waste No
Zinc phosphide	Zinc phosphide Zn_3P_2, when present at concentrations of 10% or less.	1314-84-7	U24

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[1] The abbreviation N.O.S. (not otherwise specified) signifies those members of the general class not specifically listed b name in this appendix.

[2] At 53 FR 43884, Oct. 31, 1988, Appendix VIII was amended by removing the listing: "Stontium sulfide * * * Same * * 1314—96—1.". The amendatory instruction in that document was incorrect and the Environmental Protection Agency w publish a correction document in the FEDERAL REGISTER at a later date.

[53 FR 13388, Apr. 22, 1988, as amended at 53 FR 43881, Oct. 31, 1988; 54 FR 50978, Dec. 11, 1989]

APPENDIX IX—WASTES EXCLUDED UNDER §§ 260.20 AND 260.22

TABLE 1—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES

Facility	Address	Waste description
Arco Building Products.	Sugarcreek, Ohio.	Dewatered wastewater treatment sludge (EPA Hazardous Waste No. F019) generated fro the chemical conversion coating of aluminum afte August 15, 1986.
Arco Chemical Co.	Miami, FL	Dewatered wastewater treatment sludge (EPA Hazardous Waste No. FO19) generated fro the chemical conversion coating of aluminum after April 29, 1986.
BBC Brown Boveri, Inc.	Sanford, FL	Dewatered Wastewater treatment sludges (EPA Hazardous Waste No. F006) generated fro electroplating operations after October 17, 1986.
Boeing Commercial Airplane Co.	Auburn, Washington.	Residually contaminated soils in an inactive sludge pile containment area on March 2 1990, previously used to store wastewater treatment sludges generated from electropla operations (EPA Hazardous Waste No. F006).
Bommer Industries Inc..	Landrum, SC	Wastewater treatment sludges (EPA Hazardous Waste No. F006) generated from the electroplating operations and contained in evaporation ponds #1 and #2 on August 1 1987.
Capitol Products Corp.	Harrisburg, PA	Dewatered wastewater treatment slugdges (EPA Hazardous Waste No. FO19) genera from the chemical conversion coating of aluminum after September 12, 1986.
Capitol Products Corporation.	Kentland, IN	Dewatered wastewater treatment sludges (EPA Hazardous Waste No. F019) generated fro the chemical conversion coating of aluminum after November 17, 1986.
Chamberlian-Featherlite, Inc.	Hot Springs, AR.	Dewatered wastewater treatment sludges (EPA Hazardous Waste No. F019) generated fro the chemical conversion coating of aluminum after July 16, 1986.
Cincinnati Metropolitan Sewer District.	Cincinnati, OH	Sluiced bottom ash (approximately 25,000 cubic yards) contained in the South Lagoon, o September 13, 1985 which contains EPA Hazardous Waste Nos. F001, F002, F003, F00 and F005.
Clay Equipment Corporation.	Cedar Falls, Iowa.	Dewatered wastewater treatment sludges (EPA Hazardous Waste No. F006) and spe cyanide bath solutions (EPA Hazardous Waste No. F009) generated from electropla operations and disposed of in an on-site surface impoundment. This is a onetim exclusion. This exclusion was published on August 1, 1989.
Continental Can Co.	Olympia, WA	Dewatered wastewater treatment sludges (DPA Hazardous Waste No. FO19) generated fro the chemical conversion coating of aluminum after September 12, 1986.
Dover Corp., Norris Div.	Tulsa, OK	Dewatered wastewater treatment sludge (EPA Hazardous Waste No. FO06) generated fro their electroplating operations after April 29, 1986.
Eli Lilly and Company..	Clinton, Indiana..	Incinerator scrubber liquids, entering and contained in their onsite surface impoundment, an solids settling from these liquids originating from the burning of spent solvents (EP Hazardous Waste Nos. F002, F003, and F005) contained in their onsite surface impound ment and solids retention area on August 18, 1988 and any new incinerator scubb liquids and settled solids generated in the surface impoundment and and disposed of i the retention are after August 12, 1988.
EPA's Mobile Incineration System.	Denney Farm Site; McDowell, MO.	Process wastewater, rotary kiln ash, CHEAF media, and other solids (except spent activat carbon) (EPA Hazardous Waste Nos. F020, F022, F023, F026, F027, and F028) genera during the field demonstration of EPA's Mobile Incinerator at the Denney Farm Site McDowell, Missouri, after July 25, 1985, so long as: (1) The incinerator is functioni properly; (2) a grab sample is taken from each tank of wastewater generated and the E leachate values do not exceed 0.03 ppm for mercury, 0.14 ppm for selenium, and 0. ppm for chromium; and (3) a grab sample is taken from each drum of soil or a generated and a core sample is collected from each CHEAF roll generated and the E leachate values of daily composites do not exceed 0.044 ppm in ash or CHEAF media f mercury or 0.22 ppm in ash or CHEAF media for selenium.

TABLE 1—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Continued

cility	Address	Waste description
Mobile neration tem 6).	McDowell, MO.	Kiln ash, cyclone ash, separator sludge, and filtered wastewater (except spent activated carbon) (EPA Hazardous Waste No. F027) generated during the treatment of cancelled pesticides containing 2,4,5-T and Silvex and related materials by the EPA's Mobile Incineration System at the Denney Farm Site in McDowell, Missouri after March 11, 1988, so long as: (1) the incinerator is monitored continuously and is in compliance with operating permit conditions. Should the incinerator fail to comply with the permit conditions relevant to the mechanical operation of the incinerator, RCB must test the residues generated during the run when the failure occurred according to the requirements of Conditions (2) through (5), regardless of whether or not the demonstration in Condition (6) has been made; (2) Four grab samples of wastewaier must be composited from the volume of filtered wastewater collected after each eight hour run and, prior to disposal, the composite samples analyzed for the EP toxic metals, nickel, and cyanide. If arsenic, chromium, lead, and silver EP leachate test results exceed 0.44 ppm; barium levels exceed 8.8 ppm; cadmium and selenium levels exceed 0.09 ppm; mercury levels exceed 0.02 ppm; nickel levels exceed 4.4 ppm; or cyanide levels exceed 1.8 ppm, the wastewater must be retreated to achieve these levels or must be disposed in accordance with Subtitle C of RCRA. Analyses must be performed according to SW-846 methodologies. (3) One grab sample must be taken from each drum of kiln ash generated during each eight hour run; all grabs collected during a given eight hour run must then be composited to form one composite sample. One grab sample must be taken from each drum of cyclone ash generated during each eight hour run; all grabs collected during a given eight hour run must then be composited to form one composite sample. A composite sample of four grab samples of the separator sludge must be collected at the end of each eight hour run. Prior to the disposal of the residues from each eight hour run, an EP leachate test must be performed on these composite samples and the leachate analyzed for the EP toxic metals, nickel, and cyanide. If arsenic, chromium, lead, and silver EP leachate test results exceed 1.6 ppm; barium levels exceed 32 ppm; cadmium and selenium levels exceed 0.3 ppm; mercury levels exceed 0.07 ppm; nickel levels exceed 16 ppm; or cyanide levels exceed 6.5 ppm, the wastes must be retreated to achieve these levels or must be disposed in accordance with Subtitle C of RCRA. Analyses must be performed according to SW-846 methodologies. (4) RCB must generate, prior to disposal of residues, verification data from each eight hour run for each treatment residue (*i.e.*, kiln ash, cyclone ash, separator sludge, and filtered wastewater) to demonstrate that the maximum allowable treatment residue concentrations listed below are not exceeded. Samples must be collected as specified in conditions (2) and (3). Analyses must be performed according to SW-846 methodologies. Any residues which exceed any of the levels listed below must be retreated or must be disposed as hazardous. Solid and sludge concentrations must not exceed the following levels: Aldrin—0.015 ppm Benzene—9.7 ppm Benzo(a)pyrene—0.43 ppm Benzo(b)fluoranthene—1.8 ppm Chlordane—0.37 ppm Chloroform—5.4 ppm Chrysene—170 ppm Dibenz(a,h)anthracene—0.083 ppm 1,2-Dichloroethane—4.1 ppm Dichloromethane—2.4 ppm 2,4-Dichlorophenol—480 ppm Dichlorvos—260 ppm Disulfaton—23 ppm Endosulfan I—310 ppm Fluorene—120 ppm Indeno(1,2,3-cd)pyrene—330 ppm Methyl parathion—210 ppm Nitrosodiphenylamine—130 ppm Phenanthrene—150 ppm Polychlorinated biphenyls—0.31 ppm Tetrachloroethylene—59 ppm 2,4,5-TP (silvex)—110 ppm 2,4,6-Trichlorophenol—3.9 ppm. And detected wastewater concentrations do not exceed the following levels: Acetone—35 ppm Aldrin—0.000018 ppm Benzene—0.044 ppm

TABLE 1—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		Benzo(a)pyrene—0.000027 ppm
		Benzo(b)fluoranthene—0.00018 ppm
		Biphenyl—15 ppm
		Bis-2-ethylhexyl phthalate—6.2 ppm
		Chlordane—0.00024 ppm
		Chlorobenzene—8.8 ppm
		Chloroform—0.052 ppm
		Chrysene—0.0018 ppm
		2,4-D—3.5 ppm
		Dibenz(a,h)anthracene—0.000006 ppm
		Dichloromethane—0.042 ppm
		1,3-Dichlorobenzene—34 ppm
		1,4-Dichlorobenzene—0.66 ppm
		1,2-Dichlorobenzene—26 ppm
		1,2-Dichloroethane—0.044 ppm
		2,4-Dichlorophenol—0.88 ppm
		Dichlorvos—0.78 ppm
		Diethyl phthalate—4,400 ppm
		Disulfaton—0.016 ppm
		Endosulfan I—0.020 ppm
		Ethyl benzene—35 ppm
		Fluoranthene—1.8 ppm
		Fluorene—0.018 ppm
		Indeno(1,2,3-cd)pyrene—0.0018 ppm
		Isophorone—62 ppm
		Methyl chloride—35 ppm
		Methyl parathion—0.099 ppm
		Naphthalene—80 ppm
		Nitrosodiphenylamine—0.063 ppm
		Pentachlorophenol—8.8 ppm
		Phenanthrene—0.018 ppm
		Phenol—8.8 ppm
		Polychlorinated biphenyls—0.000072 ppm
		Pyrene—35 ppm
		Tetrachloroethylene—0.059 ppm
		2,3,4,6-Tetrachlorophenol—8.8 ppm
		Toluene—88 ppm
		2,4,5-TP (silvex)—0.088 ppm
		1,2,4-Trichlorobenzene—6.2 ppm
		2,4,6-Trichlorophenol—0.018 ppm
		2,4,5-Trichlorophenol—35 ppm
		2,4,5-Trichlorophenoxyacetic acid—0.88 ppm
		Xylene—619 ppm;
		(5) RCB must generate, prior to disposal of residues, verification data from each eight hour run for each treatment residue (*i.e.*, kiln ash, cyclone ash, separator sludge, and filtered wastewater) to demonstrate that the residues do not contain tetra-, penta-, or hexachlorodibenzo-p-dioxins or furans at levels of regulatory concern. Samples must be collected as specified in conditions (2) and (3). The TCDD equivalent levels for solids must be less than 5 ppt and for wastewater the levels must be below 0.002 ppt. Any residues with detected dioxins or furans in excess of these levels must be retreated or must be disposed as acutely hazardous. Method 8290, a high resolution gas chromatography and high resolution mass spectroscopy (HRGC/HRMS) analytical method, must be used. For tetra- and penta-chlorinated dioxin and furan homologs, the maximum practical quantitation limit must not exceed 15 ppt for solids and 120 ppq for wastewaters. For hexachlorinated dioxin and furan homologs, the maximum practical quantitation limit must not exceed 37 ppt for solids and 0.3 ppt for wastewaters.
		(6) The test data from conditions (1), (2), (3), (4) and (5) must be kept on file by RCB for inspection purposes and must be compiled, summarized, and submitted to the Assistant Administrator for Solid Waste and Emergency Response by certified mail on a monthly basis and when the treatment of the cancelled pesticides and related materials is concluded. The testing requirements for conditions (2), (3), (4), and (5) will continue until RCB provides the Assistant Administrator with the results of four consecutive batch analyses for the petitioned wastes, none of which exceed the maximum allowable treatment residue concentrations listed in these conditions and the Assistant Administrator notifies RCB that the conditions have been lifted. All data submitted will be placed in the RCRA docket.

Table 1—Wastes Excluded From Non-Specific Sources—Continued

cility	Address	Waste description
		(7) RCB must provide a signed copy of the following certification statement when submitting data in response to the conditions listed above: "Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations, I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the (those) identified section(s) of this document for which I cannot personally verify its (their) accuracy, I certify as the Agency official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete."
e poration.	Canton, Ohio; Harvey, Illinois; Thomaston, Connecticut; and York, PA.	Dewatered wastewater sludges (EPA Hazardous Waste No. F006) generated from electroplating operations; spent cyanide plating solutions (EPA Hazardous Waste No. F007) generated from electroplating operations; plating bath residues from the bottom of plating baths (EPA Hazardous Waste No. F008) generated from electroplating operations where cyanides are used in the process; spent stripping and cleaning bath solutions (EPA Hazardous Waste No. F009) generated from electro-plating operations where cyanides are used in the process; spent cyanide solutions from salt bath pot cleaning (EPA Hazardous Waste No. F011) generated from Metal heat treating operations; quenching wastewater treatment sludges (EPA Hazardous Waste No. F012) generated from metal heat treating where cyanides are used in the process; wastewater treatment sludges (EPA Hazardous Waste No. F019) generated from the chemical conversion coating of aluminum after November 14, 1986. To ensure that hazardous constituents are not present in the waste at levels of regulatory concern, the facility must implement a contingency testing program for the petitioned wastes. This testing program must meet the following conditions for the exclusions to be valid: (1) Each batch of treatment residue must be representatively sampled and tested using the EP Toxicity test for arsenic, barium, cadmium, chromium, lead, selenium, silver, mercury, and nickel. If the extract concentrations for chromium, lead, arsenic, and silver exceed 0.315 ppm; barium levels exceed 6.3 ppm; cadmium and selenium exceed 0.063 ppm; mercury exceeds 0.0126 ppm; or nickel levels exceed 2.205 ppm, the waste must be re-treated or managed and disposed as a hazardous waste under 40 CFR Parts 262 to 265 and the permitting standards of 40 CFR Part 270. (2) Each batch of treatment residue must be tested for reactive and leachable cyanide. If the reactive cyanide levels exceed 250 ppm or leachable cyanide levels (using the EP Toxicity test without acetic acid adjustment) exceed 1.26 ppm, the waste must be re-treated or managed and disposed as a hazardous waste under 40 CFR Parts 262 to 265 and the permitting standards of 40 CFR Part 270. (3) Each batch of waste must be tested for the total content of specific organic toxicants. If the total content of anthracene exceeds 76.8 ppm, 1,2-diphenyl hydrazine exceeds 0.001 ppm, methylene chloride exceeds 8.18 ppm, methyl ethyl ketone exceeds 326 ppm, n-nitrosodiphenylamine exceeds 11.9 ppm, phenol exceeds 1,566 ppm, tetrachloroethylene exceeds 0.188 ppm, or trichloroethylene exceeds 0.592 ppm, the waste must be managed and disposed as a hazardous waste under 40 CFR Parts 262 and 265 and the permitting standards of 40 CFR Part 270. (4) A grab sample must be collected from each batch to form one monthly composite sample which must be tested using GC/MS analysis for the compounds listed in #3 above as well as the remaining organics on the priority pollutant list. (See 47 FR 52309 November 19, 1982, for a list of the priority pollutants.) (5) The data from conditions 1-4 must be kept on file at the facility for inspection purposes and must be compiled, summarized, and submitted to the Administrator by certified mail semi-annually. The Agency will review this information and if needed will propose to modify or withdraw the exclusion. The organics testing described in conditions 3 and 4 above are not required until six months from the date of promulgation. The Agency's decision to conditionally exclude the treatment residue generated from the wastewater treatment systems at these facilities applies only to the wastewater and solids treatment systems as they presently exist as described in the delisting petition. The exclusion does not apply to the proposed process additions described in the petition as recovery including crystalization, electrolytic metals recovery, evaporative recovery, and ion exchange.
lconer Glass Indust., Inc.	Falconer, NY	Wastewater treatment sludges from the filter press and magnetic drum separator (EPA Hazardous Waste No. F006) generated from electroplating operations after July 16, 1986.
orida Production Engineering Company.	Daytona Beach, Florida.	This is a one-time exclusion. Wastewater treatment sludges (EPA Hazardous Waste No. F006) generated from electroplating operations and contained in four on-site trenches on January 23, 1987.
eneral Cable Co.	Muncie, IN	Dewatered wastewater treatment sludges (EPA Hazardous Waste Nos. F006 and K062) generated from electroplating operations and steel finishing operations after October 24, 1986. This exclusion does not apply to sludges in any on-site impoundments as of this date.

TABLE 1—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Continued

Facility	Address	Waste description
General Electric Company.	Shreveport Louisiana.	Wastewater treatment sludges (EPA Hazardous Waste No. F006) generated from electropla ing operations and contained in four on-site treatment ponds on August 12, 19
General Motors Corp., Fisher Body Division.	Elyria, OH	The residue generated from the use of the Chemfix* treatment process on sludge (EP Hazardous Waste No. F006) generated from electroplating operations and contained i three on-site surface impoundments on November 14, 1986. To assure that stabilizatio occurs, the following conditions apply to this exclusion: (1) Mixing ratios shall be monitored continuously to assure consistent treatment. (2) One grab sample of the treated waste shall be taken each hour as it is pumped to th holding area (cell) from each trailer unit. At the end of each production day, the gra samples from the individual trailer units will be composited and the EP toxicity test will b run on each composite sample. If lead or total chromium concentrations exceed 0.31 ppm or if nickel exceeds 2.17 ppm, in the EP extract, the waste will be removed an retreated or disposed of as a hazardous waste. (3) The treated waste shall be pumped into bermed cells which are constructed to assu that the treated waste is identifiable and retrievable (*i.e.*, the material can be removed an either disposed of as a hazardous waste or retreated if conditions 1 or 2 are not me Failure to satisfy any of these conditions would render the exclusion void. This is a one-tim exclusion, applicable only to the residue generated from the use of the Chemfix* treatme process on the sludge currently contained in the three on-site surface impoundmen
Goodyear Tire and Rubber Co..	Randleman, NC..	Dewatered wastewater treatment sludges (EPA Hazardous Waste No. F006) generated fro electroplating operations.
Gould, Inc	McConnelsville, OH.	Wastewater treatment sludge (EPA Hazardous Waste No. F006) generated from electropla ing operations after November 27, 1985.
Hanover Wire Cloth Division.	Hanover, Pennsylvania.	Dewatered filter cake (EPA Hazardous Waste No. F006) generated from electroplati operations after August 15, 1986.
Holston Army Ammunition Plant.	Kingsport, Tennessee.	Dewatered wastewater treatment sludges (EPA Hazardous Waste Nos. F003, F005, an K044) generated from the manufacturing and processing of explosives and containi spent non-halogenated solvents after November 14, 1986.
Imperial Clevite.	Salem, IN	Solid resin cakes containing EPA Hazardous Waste No. F002 generated after August 2 1985, from solvent recovery operations.
International Minerals and Chemical Corporation.	Terre Haute, Indiana.	Spent non-halogenated solvents and still bottoms (EPA Hazardous Waste No. F00 generated from the recovery of n-butyl alchohol after August 15, 1986.
Kay-Fries, Inc	Stoney Point, NY.	Biological aeration lagoon sludge and filter press sludge generated after September 2 1984, which contain EPA Hazardous Waste Nos. F003 and F005 as well as that dispos of in a holding lagoon as of September 21, 1984.
Keymark Corp	Fonda, NY	Wastewater treatment sludge (EPA Hazardous Waste No. F019) generated from chemic conversion coating of aluminum after November 27, 1985.
Keymark Corp	Fonda, New York.	Wastewater treatment sludges (EPA Hazardous Waste No. F019) generated from th chemical conversion coating of aluminum and contained in an on-site impoundment o August 12, 1987. This is a one-time exclusion.
Lederle Laboratories..	Pearl River, NY..	Spent non-halogenated solvents and still bottoms (EPA Hazardous Waste Nos. F003 an F005) generated from the recovery of the following solvents: Xylene, acetone, eth acetate, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, methan toluene, and pyridine after August 2, 1988. Excusion applies to primary and seconda filter press sludges and compost soils generated from these sludges.
Lincoln Plating Company.	Lincoln, NE	Wastewater treatment sludges (EPA Hazardous Waste No. F006) generated from electropla ing operations after November 17, 1986.
Loxcreen Company, Inc.	Hayti, MO	Dewatered wastewater treatment sludges (EPA Hazardous Waste No. F019) generated fro the chemical conversion coating of aluminum after July 16, 1986.
Marquette Electronics Incorporated..	Milwaukee, Wisconsin..	Wastewater treatment sludge (EPA Hazardous Waste No. F006) generated from electropla ing operations. This exclusion was published on April 20, 1989.
Martin Marietta Aerospace.	Ocala, Florida	Dewatered wastewater treatment sludges (EPA Hazardous Waste No. F006) generated fro electroplating operations after January 23, 1987.
Mason Chamberlain, Incorporated.	Bay St. Louis, Mississippi.	Wastewater treatment sludge filter cake (EPA Hazardous Waste No. F019) generated (at maximum annual rate of 1,262 cubic yards) from the chemical conversion coating o aluminum. This exclusion was published on October 27, 1989.

TABLE 1—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Continued

Facility	Address	Waste description
Merck & Company, Incorporated.	Elkton, Virginia.	One-time exclusion for fly ash (EPA Hazardous Waste No. F002) from the incineration of wastewater treatment sludge generated from pharmaceutical production processes and stored in an on-site fly ash lagoon. This exclusion was published on May 12, 1989.
Maytag Company.	Newton, IA	Wastewater treatment sludges (EPA Hazardous Waste No. F006) generated from electroplating operations and wastewater treatment sludges (EPA Hazardous Waste No. F019) generated from the chemical conversion coating of aluminum November 17, 1986.
Metropolitan Sewer District of Greater Cincinnati.	Cincinnati, OH	Sluiced bottom ash sludge (approximately 25,000 cubic yards), contained in the North Lagoon, on September 21, 1984, which contains EPA Hazardous Wastes Nos. F001, F002, F003, F004, and F005.
Michelin Tire Corp.	Sandy Springs, South Carolina.	Dewatered wastewater treatment sludge (EPA Hazardous Wastes No. F006) generated from electroplating operations after November 14, 1986.
Monroe Auto Equipment.	Paragould, AR	Wastewater treatment sludge (EPA Hazardous Waste No. F006) generated from electroplating operations after vacuum filtration after November 27, 1985. This exclusion does not apply to the sludge contained in the on-site impoundment.
North American Philips Consumer Electronics Corporation.	Greenville, Tennessee.	Wastewater treatment sludges (EPA Hazardous Waste No. F006) generated from electroplating operations. This exclusion was published on April 20, 1989.
Pancor C, Inc	Las Piedras, PR.	Dewatered Wastewater treatment sludges (EPA Hazardous Waste No. F006) generated from electroplating operations after October 17, 1986.
Plastene Supply Company.	Portageville, Missouri.	Dewatered wastewater treatment sludges (EPA Hazardous Waste No. F006) generated from electroplating operations after August 15, 1986.
Reynolds Metals Company.	Sheffield, AL	Dewatered wastewater treatment sludges (EPA Hazardous Waste No. F019) generated from the chemical conversion coating of aluminum after August 15, 1986.
Segel-Robert, Inc.	St. Louis, MO	Wastewater treatment sludge (EPA Hazardous Waste No. F006) generated from electroplating operations after November 27, 1985.
Square D Company.	Oxford, Ohio	Dewatered filter press sludge (EPA Hazardous Waste No. F006) generated from electroplating operations after August 15, 1986.
Syntex Agribusiness.	Springfield, MO.	Kiln ash, cyclone ash, separator sludge, and filtered wastewater (except spent activated carbon) (EPA Hazardous Waste No. F020 generated during the treatment of wastewater treatment sludge by the EPA's Mobile Incineration System at the Denney Farm Site in McDowell, Missouri after June 2, 1988, so long as: (1) The incinerator is monitored continuously and is in compliance with operating permit conditions. Should the incinerator fail to comply with the permit conditions relevant to the mechanical operation of the incinerator, Syntex must test the residues generated during the run when the failure occurred according to the requirements of Conditions (2) through (6), regardless of whether or not the demonstration in Condition (7) has been made. (2) Four grab samples of wastewater must be composited from the volume of filtered wastewater collected after each eight hour run and, prior to disposal the composite samples must be analyzed for the EP toxic metals, nickel, and cyanide. If arsenic, chromium, lead, and silver EP leachate test results exceed 0.61 ppm; barium levels exceed 12 ppm; cadmium and selenium levels exceed 0.12 ppm; mercury levels exceed 0.02 ppm; nickel levels exceed 6.1 ppm; or cyanide levels exceed 2.4 ppm, the wastewater must be retreated to achieve these levels or must be disposed in accordance with all applicable hazardous waste regulations. Analyses must be performed according to SW-846 methodologies. (3) One grab sample must be taken from each drum of kiln and cyclone ash generated during each eight hour run; all grabs collected during a given eight hour run must then be composited to form one composite sample. A composite sample of four grab samples of the separator sludge must be collected at the end of each eight hour run. Prior to the disposal of the residues from each eight hour run, an EP leachate test must be performed on these composite samples and the leachate analyzed for the EP toxic metals, nickel, and cyanide (using a distilled water extraction for the cyanide extraction) to demonstrate that the following maximum allowable treatment residue concentrations listed below are not exceeded. Analyses must be performed according to SW-846 methodologies. Any residues which exceed any of the levels listed below must be retreated to achieve these levels or must be disposed in accordance with all applicable hazardous waste regulations. Maximum Allowable Solids Treatment Residue EP Leachate Concantrations (mg/L) Arsenic—1.6 Barium—32 Cadmium—0.32

TABLE 1—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		Chromium—1.6 Lead—1.6 Mercury—0.065 Nickel—16 Selenium—0.32 Silver—1.6 Cyanide—6.5 (4)—If Syntex stabilizes any of the kiln and cyclone ash or separator sludge, a Portland cement-type stabilization process must be used and Syntex must collect a composite sample of four grab samples from each batch of stabilized waste. An MEP leachate test must be performed on these composite samples and the leachate analyzed for the EP toxic metals, nickel, and cyanide (using a distilled water extraction for the cyanide leachate analysis) to demonstrate that the maximum allowable treatment residue concentrations listed in Condition (3) are not exceeded during any run of the MEP extraction. Analyses must be performed according to SW-846 methodologies. Any residues which exceed any of the levels listed in Condition (3) must be retreated to achieve these levels or must be disposed in accordance with all applicable hazardous waste regulations. (If the residues are stabilized, the analyses required in this condition supercede the analyses required in Condition (3).) (5) Syntex must generate, prior to disposal of residues, verification data from each eight hour run from each treatment residue (*i.e.*, kiln and cyclone ash, separator sludge, and filtered wastewater) to demonstrate that the maximum allowable treatment residue concentrations listed below are not exceeded. Samples must be collected as specified in Conditions (2) and (3). Analyses must be performed according to SW-846 methodologies. Any solid or liquid residues which exceed any of the levels listed below must be retreated to achieve these levels or must be disposed in accordance with Subtitle C of RCRA. Maximum Allowable Wastewater Concentrations (ppm): Benz(a)anthracene—1×10^{-4} Benzo(a)pyrene—4×10^{-5} Benzo(b)fluoranthene—2×10^{-4} Chloroform—0.07 Chrysene—0.002 Dibenz(a,h)anthracene—9×10^{-6} 1,2-Dichloroethane—0.06 Dichloromethane—0.06 Indeno(1,2,3-cd)pyrene—0.002 Polychlorinated biphenyls—1×10^{-4} 1,2,4,5-Tetrachlorobenzene—0.13 2,3,4,6-Tetrachlorophenol—12 Toluene—120 Trichloroethylene—0.04 2,4,5-Trichlorophenol—49 2,4,6-Trichlorophenol—0.02 Maximum Allowable Solid Treatment Residue Concentrations (ppm): Benz(a)anthracene—1.1 Benzo(a)pyrene—0.43 Benzo(b)fluoranthene—1.8 Chloroform—5.4 Chrysene—170 Dibenz(a,h)anthracene—0.083 Dichloromethane—2.4 1,2-Dichloroethane—4.1 Indeno(1,2,3-cd)pyrene—330 Polychlorinated biphenyls—0.31 1,2,4,5-Tetrachlorobenzene—720 Trichloroethylene—6.6 2,4,6-Trichlorophenol—3.9 (6) Syntex must generate, prior to disposal of residues, verification data from each eight hour run for each treatment residue (*i.e.*, kiln and cyclone ash, separator sludge, and filtered wastewater) to demonstrate that the residues do not contain tetra-, penta-, or hexachlorodibenzo-p-dioxins or furans at levels of regulatory concern. Samples must be collected as specified in Conditions (2) and (3). The TCDD equivalent levels for wastewaters must be less than 2 ppq and less than 5 ppt for the solid treatment residues. Any residues with detected dioxins or furans in excess of these levels must be retreated or must be disposed as acutely hazardous. Method 8290, a high resolution gas chromatography and high resolution mass spectroscopy (HRGC/HRMS) analytical method, must be used. For tetra- and pentachloronated dioxin and furan homologs, the maximum practical quantitation limit must not exceed 15 ppt for solids and 120 ppq for wastewaters. For hexachlorinated homologs, the maximum practical quantitation limit must not exceed 37 ppt for solids and 300 ppq for wastewaters.

TABLE 1—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Continued

ity	Address	Waste description
		(7)(A) The test data from Conditions (1), (2), (3), (4), (5) and (6) must be kept on file by Syntex for inspection purposes and must be compiled, summarized, and submitted to the Section Chief, Variances Section, PSPD/OSW (WH-563), US EPA, 401 M Street, S.W., Washington, D.C. 20460 by certified mail on a monthly basis and when the treatment of the lagoon sludge is concluded. All data submitted will be placed in the RCRA docket. (B) The testing requirements for Conditions (2), (3), (4), (5), and (6) will continue until Syntex provides the Section Chief, Variances Section, with the results of four consecutive batch analyses for the petitioned wastes, none of which exceed the maximum allowable treatment residue concentrations listed in these conditions and the Section Chief, Variances Section, notifies Syntex that the conditions have been lifted. (8) Syntex must provide a signed copy of the following certification statement when submitting data in response to the conditions listed above: "Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations, I certify that the information contained in or accompanying this document is true, accurate, and complete. As to the (those) identified section(s) of this document for which I cannot personally verify its (their) accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete."
essee.	Ripley, TN	Dewatered wastewater treatment sludges (EPA Hazardous Waste No. F006) generated from the copper, nickel, and chromium electroplating of plastic parts after November 17, 1986.
see roplat-	Ripley, Tennessee.	Dewatered wastewater treatment sludges (EPA Hazardous Waste Nos. F006) generated from electroplating operations after November 17, 1986. To ensure chromium levels do not exceed the regulatory standards there must be continuous batch testing of the filter press sludge for chromium for 45 days after the exclusion is granted. Each batch of treatment residue must be representatively sampled and tested using the EP toxicity test for chromium. This data must be kept on file at the facility for inspection purposes. If the extract levels exceed 0.922 ppm of chromium the waste must be managed and disposed of as hazardous. If these conditions are not met, the exclusion does not apply. This exclusion does not apply to sludges in any on-site impoundments as of this date.
uments,	Dallas, TX	Wastewater treatment sludges (EPA Hazardous Waste Nos. F006 and F019) generated after August 27, 1985, from their electroplating operations that have been batch tested for cadmium using the EP toxicity procedure and have been found to contain less than 0.30 ppm cadmium in the EP extract. Wastewater treatment sludges that exceed this level will be considered a hazardous waste.
ronmen- ystems,	Hilliard, Ohio	Dewatered wastewater treatment sludges (EPA Hazardous Waste No. F006) generated from electroplating operations after November 17, 1986. To ensure that hazardous constituents are not present in the waste at levels of regulatory concern, the facility must implement a contingency testing program for the petitioned wastes. This testing program must meet the following conditions for the exclusion to be valid: (1) Each batch of treatment residue must be representatively sampled and tested using the total oil and grease test and the EP Toxicity test (or the Oily Waste EP test, if the oil and grease content of the waste exceeds one percent) for arsenic, barium, cadmium, chromium, lead, selenium, silver, mercury, and nickel. If the extract concentrations for chromium, lead, arsenic, and silver exceed 0.315 ppm; barium levels exceed 6.3 ppm; cadmium and selenium levels exceed 0.063 ppm; mercury levels exceed 0.013 ppm; or nickel levels exceed 2.2 ppm, the waste will be re-treated or managed and disposed as a hazardous waste under 40 CFR Parts 262 to 265 and the permitting standards of 40 CFR Part 270. (2) Each batch of treatment residue must be tested for reactive and leachable cyanide. If the reactive cyanide levels exceed 250 ppm or leachable cyanide levels (using the EP Toxicity test without acetic acid adjustment) exceed 1.26 ppm, the waste must be re-treated or managed and disposed as a hazardous waste under 40 CFR Parts 262 to 265 and the permitting standards of 40 CFR Part 270. (3) Each batch of the waste must be tested for the total content of the following organic toxicants. If the total content of any of the constituents exceeds the maximum levels shown, the waste must be managed and disposed as a hazardous waste under 40 CFR Parts 262 to 265 and the permitting standards of 40 CFR Part 270. Compound and Maximum Acceptable Levels (ppm) Acrolein, 56.8 Anthracene, 76.8 Benzene, 0.106 p-Chloro-m-cresol, 133 1,1-Dichloroethane, 0.01 Fluorene, 10.4 Methylene chloride, 8.2 Methyl ethyl ketone, 326 n-Nitrosodiphenylamine, 11.9 Phenanthrene, 14 Tetrachloroethylene, 0.188 Trichloroethylene, 0.59

TABLE 1—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		Chloroform, 0.013 1,2-Dichloroethane, 0.0083 1,2-trans-Dichloroethylene, 231 2,4-Dimethylphenol, 12.5 Vinyl chloride, 0.18 (4) A grab sample must be collected from each batch to form one monthly composite sample, which must be tested using GC/MS analysis for the compounds shown above as well as the remaining organics on the priority pollutant list. (See 47 FR 52309, November 19, 1982, for a list of the priority pollutants.) (5) The test data from conditions 1-4 must be kept on file at the facility for inspection purposes and must be compiled, summarized, and submitted to the Administrator by certified mail on a semiannual basis. The Agency will review this information and if needed, will propose to modify or withdraw the exclusion. The organics testing described in conditions 3 and 4 above is not required until May 18, 1987. The Agency's decision to conditionally exclude the treatment residue generated from the wastewater treatment system at this facility applies only to the wastewater treatment residue as described in the petition.
Tricil Environmental Systems, Inc.	Nashville, Tennessee	Dewatered wastewater treatment sludges (EPA Hazardous Waste No. F019) generated from chemical conversion coating of aluminum after November 17, 1986. To ensure that hazardous constituents are not present in the waste at levels of regulatory concern, the facility must implement a contingency testing program for the petitioned wastes. This testing program must meet the following conditions for the exclusion to be valid: (1) Each batch of treatment residue must be representatively sampled and tested using the total oil and grease test and the EP Toxicity test (or the Oily Waste EP test, if the oil and grease content of the waste exceeds one percent) for arsenic, barium, cadmium, chromium, lead, selenium, silver, mercury, and nickel. If the extract concentrations for chromium, lead, arsenic, and silver exceed 1.1 ppm; barium levels exceed 22.2 ppm; cadmium and selenium levels exceed 0.22 ppm; mercury levels exceed 0.044 ppm; or nickel levels exceed 7.8 ppm, the waste will be re-treated or managed and disposed as a hazardous waste under 40 CFR Parts 262 to 265 and the permitting standards of 40 CFR Part 270. (2) Each batch of treatment residue must be tested for reactive and leachable cyanide. If the reactive cyanide levels exceed 250 ppm or leachable cyanide levels (using the EP Toxicity test without acetic acid adjustment) exceed 4.4 ppm, the waste must be re-treated or managed and disposed as a hazardous waste under 40 CFR Parts 262 to 265 and the permitting standards of 40 CFR Part 270. (3) Each batch of the waste must be tested for the total content of the following organic toxicants. If the total content of any of the constituents exceeds the maximum levels shown, the waste must be managed and disposed as a hazardous waste under 40 CFR Parts 262 to 265 and the permitting standards of 40 CFR Part 270. Compound and Maximum Acceptable Levels (ppm) Acrolein, 363 Anthracene, 492 Benzene, 0.68 p-Chloro-m-cresol, 848 1,1-Dichloroethane, 0.068 Fluorene, 66.7 Methylene chloride, 52.4 n-Nitrosodiphenylamine, 76.1 Phenanthrene, 89 Tetrachloroethylene, 1.2 Trichloroethylene, 3.78 Chloroform, 0.081 1,2-Dichloroethane, 0.053 2,4-Dimethylphenol, 79.7 Vinyl chloride, 1.16 1,2-Diphenyl hydrazine, 0.005 (4) A grab sample must be collected from each batch to form one monthly composite sample, which must be tested using GC/MS analysis for the compounds shown above as well as the remaining organics on the priority pollutant list. (See 47 FR 52309, November 19, 1982, for a list of the priority pollutants.) (5) The test data from conditions 1-4 must be kept on file at the facility for inspection purposes and must be compiled, summarized, and submitted to the Administrator by certified mail on a semiannual basis. The Agency will review this information and if needed, will propose to modify or withdraw the exclusion. The organics testing described in conditions 3 and 4 above is not required until May 18, 1987. The Agency's decision to conditionally exclude the treatment residue generated from the wastewater treatment system at this facility applies only to the wastewater treatment residue as described in the petition.

Table 1—Wastes Excluded From Non-Specific Sources—Continued

Facility	Address	Waste description
Tricil Environmental Systems, Inc.	Muskegon, Michigan.	Dewatered wastewater treatment sludges (EPA Hazardous Waste No. F006) generated from electroplating operations after November 17, 1986. To ensure that hazardous constituents are not present in the waste at levels of regulatory concern, the facility must implement a contingency testing program for the petitioned wastes. This testing program must meet the following conditions for the exclusion to be valid: (1) Each batch of treatment residue must be representatively sampled and tested using the total oil and grease test and the EP Toxicity test (or the Oily Waste EP test, if the oil and grease content of the waste exceeds one percent) for arsenic, barium, cadmium, chromium, lead, selenium, silver, mercury, and nickel. If the extract concentrations for chromium, lead, arsenic, and silver exceed 0.315 ppm; barium levels exceed 6.3 ppm; cadmium and selenium levels exceed 0.063 ppm; mercury levels exceed 0.013 ppm; or nickel levels exceed 2.2 ppm, the waste will be re-treated or managed and disposed as a hazardous waste under 40 CFR Parts 262 to 265 and the permitting standards of 40 CFR Part 270. (2) Each batch of treatment residue must be tested for reactive and leachable cyanide. If the reactive cyanide levels exceed 250 ppm or leachable cyanide levels (using the EP Toxicity test without acetic acid adjustment) exceed 1.26 ppm, the waste must be re-treated or managed and disposed as a hazardous waste under 40 CFR Parts 262 to 265 and the permitting standards of 40 CFR Part 270. (3) Each batch of the waste must be tested for the total content of the following organic toxicants. If the total content of any of the constituents exceeds the maximum levels shown, the waste must be managed and disposed as a hazardous waste under 40 CFR Parts 262 to 265 and the permitting standards of 40 CFR Part 270. Compound and Maximum Acceptable Levels (ppm) Acrolein, 56.8 Anthracene, 76.8 Benzene, 0.106 p-Chloro-m-cresol, 133 1,1-Dichloroethane, 0.01 Fluorene, 10.4 Methylene chloride, 8.2 Methyl ethyl ketone, 326 n-Nitrosodiphenylamine, 11.9 Phenanthrene, 14 Tetrachloroethylene, 0.188 Trichloroethylene, 0.59 Chloroform, 0.013 1,2-Dichloroethane, 0.0083 1,2-trans-Dichloroethylene, 231 2,4-Dimethylphenol, 12.5 Vinyl chloride, 0.18 (4) A grab sample must be collected from each batch to form one monthly composite sample, which must be tested using GC/MS analysis for the compounds shown above as well as the remaining organics on the priority pollutant list. (See 47 FR 52309, November 19, 1982, for a list of the priority pollutants.) (5) The test data from conditions 1–4 must be kept on file at the facility for inspection purposes and must be compiled, summarized, and submitted to the Administrator by certified mail on a semiannual basis. The Agency will review this information and if needed, will propose to modify or withdraw the exclusion. The organics testing described in conditions 3 and 4 above is not required until May 18, 1987. The Agency's decision to conditionally exclude the treatment residue generated from the wastewater treatment system at this facility applies only to the wastewater treatment residue as described in this petition.
United Technologies Automotive, Inc.	Jeffersonville, IN.	Dewatered wastewater treatment sludge (EPA Hazardous Waste No. FO19) generated from the chemical conversion of aluminum after April 29, 1986.
Universal Oil Products.	Decatur, Alabama.	Wastewater treatment sludges (EPA Hazardous Waste No. F006) generated from electroplating operations and contained in two on-site lagoons on August 15, 1986. This is a one-time exclusion.
U.S. EPA Combustion Research Facility.	Jefferson, Arkansas.	One-time exclusion for scrubber water (EPA Hazardous Waste No. F020) generated in 1985 from the incineration of Vertac still bottoms. This exclusion was published on June 28, 1989.
U.S. Nameplate Company, Inc.	Mount Vernon, Iowa.	Retreated wastewater treatment sludges (EPA Hazardous Waste No. F006) previously generated from electroplating operations and currently contained in an on-site surface impoundment after September 28, 1988. This is a one-time exclusion for the reteated wastes only. This exclution does not relieve the waste unit from regulatory compliance under Subtitle C.

TABLE 1—WASTES EXCLUDED FROM NON-SPECIFIC SOURCES—Continued

Facility	Address	Waste description
VAW of America Incorporated.	St. Augustine, Florida.	Wastewater treatment sludge filter cake (EPA Hazardous Waste No. F019) generated from the chemical conversion coating of aluminum. This exclusion was published on February 1, 1989.
Vermont American, Corp.	Newark, OH	Wastewater treatment sludge (EPA Hazardous Waste No. F006) generated from electroplating operations after November 27, 1985.
Waterloo Industries.	Pocahontas, AR.	Wastewater treatment sludges (EPA Hazardous Waste No. F006) generated from electroplating operations after dewatering and held on-site on July 17, 1986 and any such sludge generated (after dewatering) after July 17, 1986.
Watervliet Arsenal.	Watervliet, NY	Wastewater treatment sludges (EPA Hazardous Waste No F006) generated from electroplating operations after January 10, 1986.
William L. Bonnell Co.	Carthage, TN	Dewatered Wastewater treatment sludges (Vacuum filter sludge) (EPA Hazardous Waste No. F019) currently generated from the chemical conversion coating of aluminum after October 17, 1986. This exclusion does not apply to sludges in the on-site surface impoundments.
William L. Bonnell Co.	Newnan, Georgia.	Dewatered wastewater treatment sludges (EPA Hazardous Waste No. F019) generated from the chemical conversion coating of aluminum after November 14, 1986. This exclusion does not include sludges contained in Bonnell's on-site surface impoundments.
Windsor Plastics, Inc.	Evansville, IN	Spent non-halogenated solvents and still bottoms (EPA Hazardous Waste No. F003) generated from the recovery of acetone after November 17, 1986.

TABLE 2—WASTES EXCLUDED FROM SPECIFIC SOURCES

Facility	Address	Waste description
American Cyanamid.	Hannibal, Missouri.	Wastewater and sludge (EPA Hazardous Waste No. K038) generated from the washing and stripping of phorate production and contained in on-site lagoons on May 8, 1987, and such wastewater and sludge generated after May 8, 1987.
Amoco Oil Co.	Wood River, IL.	150 million gallons of DAF from petroleum refining contained in in four surge ponds after treatment with the Chemifix® stabilization process. This waste contains EPA Hazardous Waste No. K048. This exclusion applies to the 150 million gallons of waste after chemical stabilization as long as the mixing ratios of the reagent with the waste are monitored continuously and do not vary outside of the limits presented in the demonstration samples; one grab sample is taken each hour from each treatment unit, composited, and EP toxicity tests performed on each sample. If the levels of lead or total chromium exceed 0.5 ppm in the EP extract, then the waste that was processed during the compositing period is considered hazardous; the treatment residue shall be pumped into bermed cells to ensure that the waste is identifiable in the event that removal is necessary.
Bethlehem Steel Corp.	Steelton, PA	Uncured and cured chemically stabilized electric arc furnace dust/sludge (CSEAFD) treatment residue (K061) generated from the primary production of steel after May 22, 1989. This exclusion is conditioned upon the data obtained from Bethlehem's full-scale CSEAFD treatment facility because Bethlehem's original data were obtained from a laboratory-scale CSEAFD treatment process. To ensure that hazardous constituents are not present in the waste at levels of regulatory concern once the full-scale treatment facility is in operation, Bethlehem must implement a testing program for the petitioned waste. This testing program must meet the following conditions for the exclusion to be valid: (1) *Testing*: (A) *Initial Testing*: During the first four weeks of operation of the full-scale treatment system, Bethlehem must collect representative grab samples of each treated batch of the CSEAFD and composite the grab samples daily. The daily composites, prior to disposal, must be analyzed for the EP leachate concentrations of all the EP toxic metals, nickel and cyanide (using distilled water in the cyanide extractions), and the total constituent concentrations of reactive sulfide and reactive cyanide. Analyses must be performed according to SW-846 methodologies. Bethlehem must report the analytical test data obtained during the initial period no later than 90 days after the treatment of the first full-scale batch. (B) *Subsequent Testing*: Bethlehem must collect representative grab samples from every treated batch of CSEAFD generated daily and composite all of the grab samples to produce a weekly composite sample. Bethlehem then must analyze each weekly composite sample for the EP leachate concentrations of all the EP toxic metals and nickel. Analyses must be performed according to SW-846 methodologies. The analytical data, including all quality control information, must be compiled and maintained on site for a minimum of three years. These data must be furnised upon request and made available for inspection by any employee or representative of EPA or the State of Pennsylvania

TABLE 2—WASTES EXCLUDED FROM SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		(2) *Delisting Levels:* If the EP extract concentrations resulting from the testing in condition (1)(A) or (1)(B) for chromium, lead, arsenic, or silver exceed 0.315 mg/L, for barium exceeds 6.3 mg/l; for cadmium or selenium exceed 0.063 mg/l; for mercury exceeds 0.0126 mg/l; for nickel exceeds 3.15 mg/l; or for cyanide exceeds 4.42 mg/L, or total reactive cyanide or total reactive sulfide levels exceed 250 mg/kg and 500 mg/kg, respectively, the waste must either be re-treated or managed and disposed in accordance with subtitle C of RCRA. (3) *Data submittals:* Within one week of system start-up, Bethlehem must notify the Section Chief, Variances Section (see address below) when their full-scale stabilization system is on-line and waste treatment has begun. All data obtained through the initial testing condition (1)(A), must be submitted to the Section Chief, Variances Section, PSPD/OSW, (OS-343), U.S. EPA, 401 M Street, S.W., Washington, DC 20460 within the time period specified in condition (1)(A). At the Section Chief's request, Bethlehem must submit analytical data obtained through condition (1)(B) to the above address, within the time period specified by the Section Chief. Failure to submit the required data obtained from either condition (1)(A) or (1)(B) within the specified time periods will be considered by the Agency sufficient basis to revoke Bethlehem's exclusion to the extent directed by EPA. All data must be accompanied by the following certification statement: "Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations (pursuant to the applicable provisions of the Federal Code which include, but may not be limited to, 18 U.S.C. 6928), I certify that the information contained in or accompanying this document is true, accurate and complete. "As to the (those) identified section(s) of this document for which I cannot personally verify its (their) truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete. "In the event that any of this information is determined by EPA in its sole discretion to be false, inaccurate or incomplete, and upon conveyance of this fact to the company, I recognize and agree that this exclusion of wastes will be void as if it never had effect or to the extent directed by EPA and that the company will be liable for any actions taken in contravention of the company's RCRA and CERCLA obligations premised upon the company's reliance on the void exclusion."
Bethlehem Steel Corp.	Johnstown, PA.	Uncured and cured chemically stabilized electric arc furnace dust/sludge (CSEAFD) treatment residue (K061) generated from the primary production of steel after May 22, 1989. This exclusion is conditioned upon the data obtained from Bethlehem's full-scale CSEAFD treatment facility because Bethlehem's original data were obtained from a labortory-scale CSEAFD treatment process. To ensure that hazardous constituents are not present in the waste at levels of regulatory concern once the full-scale treatment facility is in operation, Bethlehem must implement a testing program for the petitioned waste. This testing program must meet the following conditions for the exclusion to be valid: (1) *Testing:* (A) *Initial Testing:* During the first four weeks of operation of the full-scale treatment system, Bethlehem must collect representative grab samples of each treated batch of the CSEAFD and composite the grab samples daily. The daily composites, prior to disposal, must be analyzed for the EP leachate concentrations of all the EP toxic metals, nickel and cyanide (using distilled water in the cyanide extractions), and the total constituent concentrations of reactive sulfide and reactive cyanide. Analyses must be performed according to SW-846 methodologies. Bethlehem must report the analytical test data obtained during this initial period no later than 90 days after the treatment of the first full-scale batch. (B) *Subsequent Testing:* Bethlehem must collect representative grab samples from every treated batch of CSEAFD generated daily and composite all of the grab samples to produce a weekly composite sample. Bethlehem then must analyze each weekly composite sample for the EP leachate concentrations of all the EP toxic metals and nickel. Analyses must be performed according to SW-846 methodologies. The analytical data, including all quality control information, must be compiled and maintained on site for a minimum of three years. These data must be furnished upon request and made available for inspection by any employeee or representative of EPA or the State of Pennsylvania. (2) *Delisting Levels:* If the EP extract concentrations resulting from the testing in condition (1)(A) or (1)(B) for chromium, lead, arsenic, or silver exceed 0.315 mg/L, for barium exceeds 6.3 mg/l; for cadmium or selenium exceed 0.063 mg/l; for mercury exceeds 0.0126 mg/l; for nickel exceeds 3.15 mg/l; or for cyanide exceeds 4.42 mg/L, or total reactive cyanide or total reactive sulfide levels exceed 250 mg/kg and 500 mg/kg, respectively, the waste must either be re-treated or managed and disposed in accordance with subtitle C of RCRA.

TABLE 2—WASTES EXCLUDED FROM SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		(3) *Data submittals:* Within one week of system start-up, Bethlehem must notify the Section Chief, Variances Section (see address below) when their full-scale stabilization system is on-line and waste treatment has begun. All data obtained through the initial testing condition (1)(A), must be submitted to the Section Chief, Variances Section, PSPD/OSW, (OS-343), U.S. EPA, 401 M Street, SW., Washington, DC 20406 within the time period specified in condition (1)(A). At the Section Chief's request, Bethlehem must submit analytical data obtained through condition (1)(B) to the above address, within the time period specified by the Section Chief. Failure to submit the required data obtained from either condition (1)(A) or (1)(B) within the specified time periods will be considered by the Agency sufficient basis to revoke Bethlehem's exclusion to the extent directed by EPA. All data must be accompanied by the following certification statement: "Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations (pursuant to the applicable provisions of the Federal Code which include, but may not be limited to, 18 U.S.C. 6928), I certify that the information contained in or accompanying this document is true, accurate and complete. "As to the (those) identified section(s) of this document for which I cannot personally verify its (their) truth and accuracy, I certify as the company official having supevisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete. "In the event that any of this information is determined by EPA in its sole discretion to be false, inaccurate or incomplete, and upon conveyance of this fact to the company, I recognize and agree that this exclusion of wastes will be void as if it never had effect or to the extent directed by EPA and that the company will be liable for any actions taken in contravention of the company's RCRA and CERCLA obligations premised upon the company's reliance on the void exclusion."
BF Goodrich Intermediates Company, Inc.	Calvert City, Kentucky.	Brine purification muds and saturator insolubles (EPA Hazardous Waste No. K071) after August 18, 1989. This exclusion is conditional upon the collection and submission of data obtained from BFG's full-scale treatment system because BFG's original data was based on data presented by another petitioner using an identical treatment process. To ensure that hazardous constituents are not present in the waste at levels of regulatory concern once the full-scale treatment facility is in operation, BFG must implement a testing program. All sampling and analyses (including quality control procedures) must be performed according to SW-846 procedures. This testing program must meet the following conditions for the exclusion to be valid: (1) Initial Testing: During the first four weeks of full-scale operation, BFG must do the following: (A) Collect representative grab samples from every batch of the treated mercury brine purification muds and treated saturator insolubles on a daily basis and composite the grab samples to produce two separate daily composite samples (one of the treated mercury brine purification muds and one of the treated saturator insolubles). Prior to disposal of the treated batches, two daily composite samples must be analyzed for EP leachate concentration of mercury. BFG must report the analytical test data, including all quality control data, within 90 days after the treatment of the first full-scale batch. (B) Collect representative grab samples from every batch of the treated mercury brine purification muds and treated saturator insolubles on a daily basis and composite the grab samples to produce two separate weekly composite samples (one of the treated mercury brine muds and one of the treated saturator insolubles). Prior to disposal of the treated batches, two weekly composite samples must be analyzed for the EP leachate concentrations of all the EP toxic metals (except mercury), nickel, and cyanide (using distilled water in the cyanide extractions), and the total constituent concentrations of reactive sulfide and reactive cyanide. BFG must report the analytical test data, including all quality control data, obtained during this initial period no later than 90 days after the treatment of the first full-scale batch. (2) Subsequent Testing: After the first four weeks of full-scale operation, BFG must do the following: (A) Continue to sample and test as described in condition (1)(A). BFG must compile and store on-site for a minimum of three years all analytical data and quality control data. These data must be furnished upon request and made available for inspection by any employee or representative of EPA or the State of Kentucky. (B) Continue to sample and test as described in condition (1)(B). BFG must compile and store on-site for a minimum of three years all analytical data and quality control data. These data must be furnished upon request and made available for inspection by any employee or representative of EPA or the State of Kentucky. These testing requirements shall be terminated by EPA when the results of four consecutive weekly composite samples of both the treated mercury brine muds and treated saturator insolubles, obtained from either the initial testing or subsequent testing, show the maximum allowable levels in condition (3) are not exceeded and the Section Chief, Variances Section, notifies BFG that the requirements of this condition have been lifted.

TABLE 2—WASTES EXCLUDED FROM SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		(3) If, under condition (1) or (2), the EP leachate concentrations for chromium, lead, arsenic, or silver exceed 0.316 mg/l; for barium exceeds 6.31 mg/l; for cadmium or selenium exceed 0.063 mg/l; for mercury exceeds 0.0126 mg/l, for nickel exceeds 3.16 mg/l; for cyanide exceeds 4.42 mg/l; or for total reactive cyanide or total reactive sulfide levels exceed 250 mg/kg and 500 mg/kg, respectively, the waste must either be retreated until it meets these levels or managed and disposed of in accordance with subtitle C of RCRA. (4) Within one week of system start-up, BFG must notify the Section Chief, Variances Section (see address below) when the full-scale system is on-line and waste treatment has begun. All data obtained through condition (1) must be submitted to the Section Chief, Variances Section, PSPD/OSW (OS-343), U.S. EPA, 401 M Street, SW., Washington, DC 20460 within the time period specified in condition (1). At the Section Chief's request, BFG must submit any other analytical data obtained through condition (2) to the above address, within the time period specified by the Section Chief. Failure to submit the required data will be considered by the Agency sufficient basis to revoke BFG's exclusion to the extent directed by EPA. All data must be accompanied by the following certification statement: "Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations (pursuant to the applicable provisions of the Federal Code which include, but may not be limited to, 18 U.S.C. § 6928), I certify that the information contained in or accompanying this document is true, accurate and complete. As to the (those) identified section(s) of this document for which I cannot personally verify its (their) truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete. In the event that any of this information is determined by EPA in its sole discretion to be false, inaccurate or incomplete, and upon conveyance of this fact to the company, I recognize and agree that this exclusion of wastes will be void as if it never had effect or to the extent directed by EPA and that the company will be liable for any actions taken in contravention of the company's RCRA and CERCLA obligations premised upon the company's reliance on the void exclusion."
CF&I Steel Corporation.	Pueblo, Colorado.	Fully-cured chemically stabilized electric arc furnace dust/sludge (CSEAFD) treatment residue (EPA Hazardous Waste No. K061) generated from the primary production of steel after May 9, 1989. This exclusion is conditioned upon the data obtained from CF&I's full-scale CSEAFD treatment facility because CF&I's original data was obtained from a laboratory-scale CSEAFD treatment process. To ensure that hazardous constituents are not present in the waste at levels of regulatory concern once the full-scale treatment facility is in operation, CF&I must implement a testing program for the petitioned waste. This testing program must meet the following conditions for the exclusion to be valid: (1) *Testing:* (A) *Initial Testing:* During the first four weeks of operation of the full-scale treatment system, CF&I must collect representative grab samples of each treated batch of the CSEAFD and composite the grab samples daily. The daily composites, prior to disposal, must be analyzed for the EP leachate concentrations of all the EP toxic metals, nickel, and cyanide (using distilled water in the cyanide extractions), and the total constituent concentrations of reactive sulfide and reactive cyanide. Analyses must be performed according to SW-846 methodologies. CF&I must report the analytical test data obtained during this initial period no later than 90 days after the treatment of the first full-scale batch. (B) *Subsequent Testing:* CF&I must collect representative grab samples from every treated batch of CSEAFD generated daily and composite all of the grab samples to produce a weekly composite sample. CF&I then must analyze each weekly composite sample for the EP leachate concentrations of all of the EP toxic metals and nickel. Analyses must be performed according to SW-846 methodologies. The analytical data, including all quality control information, must be compiled and maintained on site for a minimum of three years. These data must be furnished upon request and made available for inspection by any employee or representative of EPA or the State of Colorado. (2) *Delisting levels:* If the EP extract concentrations determined in conditions (1)(A) or (1)(B) for chromium, lead, arsenic, or silver exceed 0.315 mg/1; for barium exceeds 6.3 mg/1; for cadmium or selenium exceed 0.063 mg/1; for mercury exceeds 0.0126 mg/1; for nickel exceeds 3.15 mg/1; or for cyanide exceeds 4.42 mg/1, or total reactive cyanide or total reactive sulfide levels exceed 250 mg/kg and 500 mg/kg, respectively, the waste must either be re-treated or managed and disposed in accordance with Subtitle C of RCRA.

TABLE 2—WASTES EXCLUDED FROM SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		(3) *Data submittals*: Within one week of system start-up, CF&I must notify the Section Chief, Variances Section (see address below) when their full-scale stabilization system is on-line and waste treatment has begun. All data obtained through the initial testing condition (1)(A), must be submitted to the Section Chief, Variances Section, PSPD/OSW, (OS-343), U.S. EPA, 401 M Street, SW., Washington, DC 20460 within the time period specified in condition (1)(A). At the Section Chief's request, CF&I must submit analytical data obtained through condition (1)(B) to the above address, within the time period specified by the Section Chief. Failure to submit the required data obtained from either condition (1)(A) or (1)(B) within the specified time periods will be considered by the Agency sufficient basis to revoke CF&I's exclusion to the extent directed by EPA. All data must be accompanied by the following certification statement: "Under civil and criminal penalty of law for the making of submission of false or fraudulent statements or representations (pursuant to the applicable provisions of the Federal Code which include, but may not be limited to, 18 U.S.C. 6928), I certify that the information contained in or accompanying this document is true, accurate and complete. As to the (those) identified section(s) of this document for which I cannot personally verify its (their) truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete. In the event that any of this information is determined by EPA in its sole discretion to be false, inaccurate or incomplete, and upon conveyance of this fact to the company, I recognize and agree that this exclusion of wastes will be void as if it never had effect or to the extent directed by EPA and that the company will be liable for any actions taken in contravention of the company's RCRA and CERCLA obligations premised upon the company's reliance on the void exclusion."
Envirite Corporation.	Canton, Ohio; Harvey, Illinois; Thomaston, Connecticut; and York PA.	Spent pickle liquor (EPA Hazardous Waste No. K062) generated from steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332); wastewater treatment sludge (EPA Hazardous Waste No. K002) generated from the production of chrome yellow and orange pigments; wastewater treatment sludge (EPA Hazardous Waste No. K003) generated from the production of molybdate orange pigments; wastewater treatment sludge (EPA Hazardous Waste No. K004) generated from the production of zinc yellow pigments; wastewater treatment sludge (EPA Hazardous Waste No. K005) generated from the production of chrome green pigments; wastewater treatment sludge (EPA Hazardous Waste No. K006) generated from the production of chrome oxide green pigments (anhydrous and hydrated); wastewater treatment sludge (EPA Hazardous Waste No. K007) generated from the production of iron blue pigments; oven residues (EPA Hazardous Waste No. K008) generated from the production of chrome oxide green pigments after November 14, 1986. To ensure that hazardous constituents are not present in the waste at levels of regulatory concern, the facility must implement a contingency testing program for the petitioned wastes. This testing program must meet the following conditions for the exclusions to be valid: (1) Each batch of treatment residue must be representatively sampled and tested using the EP Toxicity test for arsenic, barium, cadmium, chromium, lead, selenium, silver, mercury, and nickel. If the extract concentrations for chromium, lead, arsenic, and silver exceed 0.315 ppm; barium levels exceed 6.3 ppm; cadmium and selenium exceed 0.063 ppm; mercury exceeds 0.0126 ppm; or nickel levels exceed 2.205 ppm, the waste must be re-treated or managed and disposed as a hazardous waste under 40 CFR Parts 262 to 265 and the permitting standards of 40 CFR Part 270. (2) Each batch of treatment residue must be tested for reactive and leachable cyanide. If the reactive cyanide levels exceed 250 ppm; or leachable cyanide levels (using the EP Toxicity test without acetic acid adjustment) exceed 1.26 ppm, the waste must be re-treated or managed and disposed as hazardous waste under 40 CFR Parts 262 to 265 and the permitting standards of 40 CFR 270. (3) Each batch of waste must be tested for the total content of specific organic toxicants. If the total content of anthracene exceeds 76.8 ppm, 1,2-diphenyl hydrazine exceeds 0.001 ppm, methylene chloride exceeds 8.18 ppm, methyl ethyl ketone exceeds 326 ppm, n-nitrosodiphenylamine exceeds 11.9 ppm, phenol exceeds 1,566 ppm, tetrachloroethylene exceeds 0.188 ppm, or trichloroethylene exceeds 0.592 ppm, the waste must be managed and disposed as a hazardous waste under 40 CFR Parts 262 to 265 and the permitting standards of 40 CFR Part 270. (4) A grab sample must be collected from each batch to form one monthly composite sample which must be tested using GC/MS analysis for the compounds listed in #3 above as well as the remaining organics on the priority pollutan list. (See 47 FR 52309, November 19, 1982, for a list of the priority pollutants.)

TABLE 2—WASTES EXCLUDED FROM SPECIFIC SOURCES—Continued

acility	Address	Waste description
		(5) The data from conditions 1-4 must be kept on file at the facility for inspection purposes and must be compiled, summarized, and submitted to the Administrator by certified mail semi-annually. The Agency will review this information and if needed will propose to modify or withdraw the exclusion. The organics testing described in conditions 3 and 4 above is not required until six months from the date of promulgation. The Agency's decision to conditionally exclude the treatment residue generated from the wastewater treatment systems at these facilities applies only to the wastewater and solids treatment systems as they presently exist as described in the delisting petition. The exclusion does not apply to the proposed process additions described in the petition as recovery, including crystalization, electrolytic metals recovery, evaporative recovery, and ion exchange.
Chemical ...	Orrington, ME...	Brine purification muds and wastewater treatment sludges generated after August 27, 1985 from their chlor-alkali manufacturing operations (EPA Hazardous Waste Nos. K071 and K106) that have been batch tested for mercury using the EP toxicity procedures and have been found to contain less than 0.05 ppm mercury in the EP extract. Brine purification muds and wastewater treatment sludges that exceed this level will be considered a hazardous waste.
l Corp........	Peekskill, NY	Wastewater treatment sludge (EPA Hazardous Waste Nos. K006 and K007) generated from the production of chrome oxide green and iron blue pigments after November 27, 1985.
santo dustrial hemicals ompany.	Sauget, Illinois..	Brine purification muds (EPA Hazardous Waste No. K071) generated from the mercury cell process in chlorine production, where separately prepurified brine is not used after August 15, 1986.
dental hemical orp. uscle nicals ant	Sheffield, Alabama.	Retorted wastewater treatment sludge from the mercury cell process in chlorine production (EPA Hazardous Waste No. K106) after September 19, 1989. This exclusion is conditional upon the submission of data obtained from Occidental's full-scale retort treatment system because Occidental's original data were based on a pilot-scale retort system. To ensure that hazardous constituents are not present in the waste at levels of regulatory concern once the full-scale treatment facility is in operation, Occidental must implement a testing program. All sampling and analyses (including quality control procedures) must be performed according to SW-846 procedures. This testing program must meet the following conditions for the exclusion to be valid: (1) Initial Testing—During the first four weeks of full-scale retort operation, Occidental must do the following: (A) Collect representative grab samples from every batch of retorted material and composite the grab samples to produce a weekly composite sample. The weekly composite samples, prior to disposal or recycling, must be analyzed for the EP leachate concentrations of all the EP toxic metals (except mercury), nickel, and cyanide (using distilled water in the cyanide extractions), and the total constitutent concentrations of reactive sulfide and reactive cyanide. Occidental must report the analytical test data, including all quality control data, obtained during this initial period no later than 90 days after the treatment of the first full-scale batch. (B) Collect representative grab samples of every batch of retorted material prior to its disposal or recycling and analyze the sample for EP leachate concentration of mercury. Occidental must report the analytical test data, including all quality control data, within 90 days after the treatment of the first full-scale batch. (2) Subsequent Testing—After the first four weeks of full-scale retort operation, Occidental must do the following: (A) Continue to sample and test as described in condition (1)(A). Occidental must compile and store on-site for a minimum of three years all analytical data and quality control data. These data must be furnished upon request and made available for inspection by any employee or representative of EPA or the State of Alabama. These testing requirements shall be terminated by EPA when the results of four consecutive weekly composite samples of the petitioned waste, obtained from either the initial testing or subsequent testing show the maximum allowable levels in condition (3) are not exceeded and the Section Chief, Variances Section, notifies Occidental that the requirements of this condition have been lifted. (B) Continue to sample and test for mercury as described in condition (1)(B). Occidental must compile and store on-site for a minimum of three years all analytical data and quality control data. These data must be furnished upon request and made available for inspection by any employee or representative of EPA or the State of Alabama. These testing requirements shall remain in effect until Occidental provides EPA with analytical and quality control data for thirty consecutive batches of retorted material, collected as described in condition (1)(B), demonstrating that the EP leachable levels of mercury are below the maximum allowable level in condition (3) and the Section Chief, Variances Section, notifies Occidental that the testing in condition (2)(B) may be replaced with (2)(C).

TABLE 2—WASTES EXCLUDED FROM SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		(C) [If the conditions in (2)(B) are satisfied, the testing requirements for mercury in (2)(B) shall be replaced with the following condition]. Collect representative grab samples from every batch of retorted material on a daily basis and composite the grab samples to produce a weekly composite sample. Occidental must analyze each weekly composite sample prior to its disposal or recycling for the EP leachate concentration of mercury. Occidental must compile and store on-site for a minimum of three years all analytical data and quality control data. These data must be furnished upon request and made available for inspection by any employee or representative of EPA or the State of Alabama. (3) If, under condition (1) or (2), the EP leachate concentrations for chromium, lead, arsenic, or silver exceed 1.616 mg/l; for barium exceeds 32.3 mg/l; for cadmium or selenium exceed 0.323 mg/l; for mercury exceeds 0.065 mg/l, for nickel exceeds 16.15 mg/l; for cyanide exceeds 22.61 mg/l; or for total reactive cyanide or total reactive sulfide levels exceed 250 mg/kg and 500 mg/kg, respectively, the waste must either be retreated until it meets these levels or managed and disposed of in accordance with subtitle C of RCRA. (4) Within one week of system start-up, Occidental must notify the Section Chief, Variances Section (see address below) when the full-scale retort system is on-line and waste treatment has begun. All data obtained through condition (1) must be submitted to the Section Chief, Variances Section, PSPD/OSW (OS-343), U.S. EPA, 401 M Street SW, Washington, DC 20460 within the time period specified in condition (1). At the Section Chief's request, Occidental must submit any other analytical data obtained through condition (2) to the above address, within the time period specified by the Section Chief. Failure to submit the required data will be considered by the Agency sufficient basis to revoke Occidental's exclusion to the extent directed by EPA. All data must be accompanied by the following certification statement: "Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations (pursuant to the applicable provisions of the Federal Code, which include, but may not be limited to, 18 U.S.C. 6928), I certify that the information contained in or accompanying this document is true, accurate and complete. As to the (those) identified section(s) of this document for which I cannot personnal verify its (their) truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete. In the event that any of this information is determined by EPA in its sole discretion to be false, inaccurate or incomplete, and upon conveyance of this fact to the company, I recognize and agree that this exclusion of wastes will be void as if it never had effect or to the extent directed by EPA and that the company will be liable for any actions taken in contravention of the company's RCRA and CERCLA obligations premised upon the company's reliance on the void exclusion."

TABLE 2—WASTES EXCLUDED FROM SPECIFIC SOURCES—Continued

cility	Address	Waste description
ke ctric l Corp..	Roanoke, VA....	Fully-cured chemically stabilized electric arc furnace dust/sludge (CSEAFD) treatment residue (EPA Hazardous Waste No. K061) generated from the primary production of steel after March 22, 1989. This exclusion is conditioned upon the data obtained from Roanoke's full-scale CSEAFD treatment facility because Roanoke's original data were obtained from a laboratory-scale CSEAFD treatment process. To ensure that hazardous constituents are not present in the waste at levels of regulatory concern once the full-scale treatment facility is in operation, Roanoke must implement a testing program for the petitioned waste. This testing program must meet the following conditions for the exclusion to be valid: (1) *Testing:* (A) *Initial testing:* During the first four weeks of operation of the full-scale treatment system, Roanoke must collect representative grab samples of each treated batch of the CSEAFD and composite the grab samples daily. The daily composites, prior to disposal, must be analyzed for the EP leachate concentrations of all the EP toxic metals, nickel and cyanide (using distilled water in the cyanide extractions), and the total constituent concentrations of reactive sulfide and reactive cyanide. Analyses must be performed according to SW-846 methodologies. Roanoke must report the analytical test data obtained during this initial period no later than 90 days after the treatment of the first full-scale batch. *(B) Subsequent testing: Roanoke must collect representative grab samples from every treated batch of CSEAFD generated daily and composite all of the grab samples to produce a weekly composite sample. Roanoke then must analyze each weekly composite sample for all of the EP toxic metals and nickel. Analyses must be performed according to SW-846 methodologies. The analytical data, including all quality control information, must be compiled and maintained on site for a minimum of three years. These data must be furnished upon request and made available for inspection by any employee or representative of EPA or the State of Virginia.* (2) *Delisting levels:* If the EP extract concentrations for chromium, lead, arsenic, or silver exceed 0.315 mg/l; for barium exceeds 6.3 mg/l; for cadmium or selenium exceed 0.063 mg/l; for mercury exceeds 0.0126 mg/l; for nickel exceeds 3.15 mg/l; or for cyanide exceeds 1.26 mg/l, or total reactive cyanide or total reactive sulfide levels exceed 250 mg/kg and 500 mg/kg, respectively, the waste must either be re-treated or managed and disposed in accordance with Subtitle C of RCRA. *(3) Data submittals: Within one week of system start-up, Roanoke must notify the Section Chief, Variances Section (see address below) when their full-scale stabilization system in on-line and waste treatment has begun. All data obtained through the initial testing condition (1)(A), must be submitted to the Section Chief, Variances Section, PSPD/OSW, (OS-343), U.S. EPA, 401 M Street, SW., Washington, DC 20460 within the time period specified in condition (1)(A). Failure to submit the required data or keep the required records will be considered by the Agency, at its discretion, sufficient basis to revoke Roanoke's exclusion.* All data must be accompanied by the following certification statement: "Under civil and criminal penalty of law for the making or submission of false or fraudulent statements or representations (pursuant to the applicable provisions of the Federal Code which include, but may not be limited to, 18 USC 6928), I certify that the information contained in or accompanying this document is true, accurate and complete. As to the (those) identified section(s) of this document for which I cannot personally verify its (their) truth and accuracy, I certify as the company official having supervisory responsibility for the persons who, acting under my direct instructions, made the verification that this information is true, accurate and complete. In the event that any of this information is determined by EPA in its sole discretion to be false, inaccurate or incomplete, and upon conveyance of this fact to the company, I recognize and agree that this exclusion of wastes will be void as if it never had effect or to the extent directed by EPA and that the company will be liable for any actions taken in contravention of the company's RCRA and CERCLA obligations premised upon the company's reliance on the void exclusion."
uffer hemical o.	Axis, AL............	Brine purification muds generated from their chlor-alkali manufacturing operatings (EPA Hazardous Waste No. K071) and disposed of in brine mud pond HWTF: 5 EP-201.
uffer hemical o.	St. Gabriel, LA.	Brine purification muds, which have been washed and vacuum filtered, generated after August 27, 1985 from their chlor-alkali manufacturing operations (EPA Hazardous Waste No. K071) that have been batch tested for mercury using the EP toxicity procedure and have been found to contain less than 0.05 ppm in mercury in the EP extract. Brine purification muds that exceed this level will be considered a hazardous waste.
l nvironmen- l Systems, c.	Hilliard, Ohio.....	Spent pickle liquor (EPA Hazardous Waste No. K062) generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332) after November 17, 1986. To ensure that hazardous constituents are not present in the waste at levels of regulatory concern, the facility must implement a contingency testing program for the petitioned wastes. This testing program must meet the following conditions for the exclusions to be valid:

TABLE 2—WASTES EXCLUDED FROM SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		(1) Each batch of treatment residue must be representatively sampled and tested using the total oil and grease test and the EP Toxicity test (or the Oily Waste EP test, if the oil and grease content of the waste exceeds one percent) for arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver and nickel. If the extract concentrations for chromium, lead, arsenic, barium, and silver exceed 6.3 ppm; cadmium and selenium exceed 0.063 ppm; mercury levels exceed 0.013 ppm; or nickel levels exceed 2.2 ppm, the waste will be retreated or managed and disposed as a hazardous waste under 40 CFR Parts 262 to 265 and the permitting standards of 40 CFR 270. (2) Each batch of treatment residue must be tested for reactive and leachable cyanide. If the reactive cyanide levels exceed 250 ppm; or leachable cyanide levels (using the EP Toxicity test without acetic acid adjustment) exceed 1.26 ppm, the waste must be retreated or managed and disposed as hazardous waste under 40 CFR Parts 262 to 265 and the permitting standards of 40 CFR Part 270. (3) Each batch of waste must be tested for the total content of the following organic toxicants. If the total content of any of the constituents exceeds the maximum levels shown, the waste must be managed and disposed as a hazardous waste under 40 CFR Parts 262 and 265 and the permitting standards of 40 CFR Part 270. Compound and Maximum Acceptable Levels (ppm) Acrolein, 56.8 Anthracene, 76.8 Benzene, 0.106 p-Chloro-m-cresol, 133 1,1-Dichloroethane, 0.01 Fluorene, 10.4 Methylenechloride, 8.2 Methyl ethyl ketone, 326 n-Nitrosodiphenylamine, 11.9 Phenanthrene, 14 Tetrachloroethylene, 0.188 Trichloroethylene, 0.59 Chloroform, 0.013 1,2-Dichloroethane, 0.0083 1,2-trans-Dichloroethylene, 231 2,4-Dimethylphenol, 12.5 Vinyl chloride, 0.18 1,2-Diphenyl hydrazine, 0.001 (4) A grab sample must be collected from each batch to form one monthly composite sample, which must be tested using GC/MS analysis for the organic compounds shown above, as well as the remaining organics on the priority pollutant list (see 47 FR 52309, November 19, 1982, Appendix A-126 Priority Pollutants). (5) The test data from conditions 1-4 must be kept on file at the facility for inspection purposes and must be compiled, summarized, and submitted to the Administrator by certified mail on a semiannual basis. The Agency will review this information and if needed, will propose to modify or withdraw the exclusion. The organics testing described in conditions 3 and 4 above is not required until May 18, 1987. The Agency's decision to conditionally exclude the treatment residue generated from the wastewater treatment system at this facility applies only to the wastewater treatment residue described in the petition.
Tricil Environmental System, Inc.	Muskegon, Michigan.	Spent pickle liquor (EPA Hazardous Waste No. K062) generated by steel finishing operations of facilities within the iron and steel industry (SIC Codes 331 and 332), after November 17, 1986. To ensure that hazardous constituents are not present in the waste at levels of regulatory concern, the facility must implement a contingency testing program for the petitioned wastes. This testing program must meet the following conditions for the exclusion to be valid: (1) Each batch of treatment residue must be representatively sampled and tested using the total oil and grease test and the EP Toxicity test (or the Oily Waste EP test, if the oil and grease content of the waste exceeds one percent) for arsenic, barium, cadmium, chromium, lead, mercury, selenium, silver and nickel. If the extract concentrations for chromium, lead, arsenic, barium, and silver exceed 6.3 ppm, cadmium and selenium exceed 0.063 ppm; mercury levels exceed 0.013 ppm; or nickel levels exceed 2.2 ppm, the waste will be retreated or managed and disposed as a hazardous waste under 40 CFR Parts 262 to 265 and the permitting standards of 40 CFR 270. (2) Each batch of treatment residue must be tested for reactive and leachable cyanide. If the reactive cyanide levels exceed 250 ppm; or leachable cyanide levels (using the EP Toxicity test without acetic acid adjustment) exceed 1.26 ppm, the waste must be retreated or managed and disposed as hazardous waste under 40 CFR Parts 262 to 265 and the permitting standards of 40 CFR Part 270.

TABLE 2—WASTES EXCLUDED FROM SPECIFIC SOURCES—Continued

Facility	Address	Waste description
		(3) Each batch of waste must be tested for the total content of the following organic toxicants. If the total content of any of the constituents exceeds the maximum levels shown, the waste must be managed and disposed as a hazardous waste under 40 CFR Parts 262 and 265 and the permitting standards of 40 CFR Part 270: Compound and Maximum Acceptable Levels (ppm) Acrolein, 56.8 Anthracene, 76.8 Benzene, 0.106 p-Chloro-m-cresol, 133 1,1-Dichloroethane, 0.01 Fluorene, 10.4 Methylenechloride, 8.2 Methyl ethyl ketone, 326 n-Nitrosodiphenylamine, 11.9 Phenanthrene, 14 Tetrachloroethylene, 0.188 Trichloroethylene, 0.59 Chloroform, 0.013 1,2-Dichloroethane, 0.0083 1,2-trans-Dichloroethylene, 231 2,4-Dimethylphenol, 12.5 Vinyl chloride, 0.18 1,2-Diphenyl hydrazine, 0.001 (4) A grab sample must be collected from each batch to form one monthly composite sample, which must be tested using GC/MS analysis for the organic compounds shown above, as well as the remaining organics on the priority pollutant list (see 47 FR 52309, November 19, 1982, Appendix A-126 Priority Pollutants). (5) The test data from conditions 1-4 must be kept on file at the facility for inspection purposes and must be compiled, summarized, and submitted to the Administrator by certified mail on a semiannual basis. The Agency will review this information and if needed, will propose to modify or withdraw the exclusion. The organics testing described in conditions 3 and 4 above is not required until May 18, 1987. The Agency's decision to conditionally exclude the treatment residue generated from the wastewater treatment system at this facility applies only to the wastewater treatment residue described in this petition.
ican Materials Company.	Port Edwards, WI.	Brine purification muds (EPA Hazardous Waste No. K071) generated from the mercury cell process in chlorine production, where separately prepurified brine is not used after November 17, 1986. To assure that mercury levels in this waste are maintained at acceptable levels, the following conditions apply to this exclusion: Each batch of treated brine clarifier muds and saturator insolubles must be tested (by the extraction procedure) prior to disposal and the leachate concentration of mercury must be less than or equal to 0.0129 ppm. If the waste does not meet this requirement, then it must be re-treated or disposed of as hazardous. This exclusion does not apply to wastes for which either of these conditions is not satisfied.

ABLE 3—WASTES EXCLUDED FROM COMMERCIAL CHEMICAL PRODUCTS, OFF-SPECIFICATION SPECIES, CONTAINER RESIDUES, AND SOIL RESIDUES THEREOF

Facility	Address	Waste description
nion Carbide Corp.	Taft, LA............	Contaminated soil (approximately 11,000 cubic yards), which contains acrolein in concentrations of less than 9 ppm.

49 FR 37070, Sept. 21, 1984]

EDITORIAL NOTE: For FEDERAL REGISTER ciations affecting Appendix IX of Part 261, ee the List of CFR Sections Affected in the 'inding Aids section of this volume.

APPENDIX X—METHOD OF ANALYSIS FOR CHLORINATED DIBENZO-P-DIOXINS AND -DIBENZOFURANS [1,2,3,4]

Method 8280

1. *Scope and Application*

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[1] This method is appropriate for the analysis of tetra-, penta-, and hexachlorinated dibenzo-*p*-dioxins and -dibenzofurans.

[2] Analytical protocol for determination of TCDDs in phenolic chemical wastes and soil samples obtained from the proximity of chemical dumps. T.O. Tiernan and M. Taylor. Brehm Laboratory, Wright State University, Dayton, OH 45435.

Continued

1.1 This method measures the concentration of chlorinated dibenzo-*p*-dioxins and chlorinated dibenzofurans in chemical wastes including still bottoms, filter aids, sludges, spent carbon, and reactor residues, and in soils.

1.2 The sensitivity of this method is dependent upon the level of interferences.

1.3 This method is recommended for use only by analysts experienced with residue analysis and skilled in mass spectral analytical techniques.

1.4 Because of the extreme toxicity of these compounds, the analyst must take necessary precautions to prevent exposure to himself, or to others, of materials known or believed to contain CDDs or CDFs.

2. *Summary of the Method*

2.1 This method is an analytical extraction cleanup procedure, and capillary column gas chromatograph-low resolution mass spectrometry method, using capillary column GC/MS conditions and internal standard techniques, which allow for the measurement of PCDDs and PCDFs in the extract.

2.2 If interferences are encountered, the method provides selected general purpose cleanup procedures to aid the analyst in their elimination.

3. *Interferences*

3.1 Solvents, reagents, glassware, and other sample processing hardware may yield discrete artifacts and/or elevated baselines causing misinterpretation of gas chromatograms. All of these materials must be demonstrated to be free from interferences under the conditions of the analysis by running method blanks. Specific selection of reagents and purification of solvents by distillation in all-glass systems may be required.

3.2 Interferences co-extracted from the samples will vary considerably from source to source, depending upon the diversity of the industry being sampled. PCDD is often associated with other interfering chlorinated compounds such as PCB's which may be at concentrations several orders of magnitude higher than that of PCDD. While general cleanup techniques are provided as part of this method, unique samples may require additional cleanup approaches to achieve the sensitivity stated in Table 1.

TABLE 1—GAS CHROMATOGRAPHY OF TCDD

Column	Retention time (min.)	Detection limit (µg/kg)[1]
Glass capillary	9.5	0.003

[1] Detection limit for liquid samples is 0.003 µg/l. This is calculated from the minimum detectable GC response being equal to five times the GC background noise assuming a 1 ml effective final volume of the 1 liter sample extract, and a GC injection of 5 microliters. Detection levels apply to both electron capture and GC/MS detection. For further details see 44 FR 69526 (December 3, 1979).

3.3 The other isomers of tetrachlorodibenzo-*p*-dioxin may interfere with the measurement of 2,3,7,8-TCDD. Capillary column gas chromatography is required to resolve those isomers that yield virtually identical mass fragmentation patterns.

4. *Apparatus and Materials*

4.1. Sampling equipment for discrete or composite sampling.

4.1.1 Grab sample bottle—amber glass, 1-liter or 1-quart volume. French or Boston Round design is recommended. The container must be washed and solvent rinsed before use to minimize interferences.

4.1.2. Bottle caps—threaded to screw on to the sample bottles. Caps must be lined with Teflon. Solvent washed foil, used with the shiny side towards the sample, may be substituted for the Teflon if sample is not corrosive.

4.1.3. Compositing equipment—automatic or manual composing system. No tygon or rubber tubing may be used, and the system must incorporate glass sample containers for the collection of a minimum of 250 ml. Sample containers must be kept refrigerated after sampling.

4.2 Water bath—heated, with concentric ring cover, capable of temperature control (±2 °C). The bath should be used in a hood.

4.3 Gas chromatograph/mass spectrometer data system.

4.3.1 Gas chromatograph: An analytical system with a temperature-programmable

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[3] Analytical protocol for determination of chlorinated dibenzo-*p*-dioxins and chlorinated dibenzofurans in river water. T.O. Tiernan and M. Taylor. Brehm Laboratory, Wright State University, Dayton, OH 45435.

[4] In general, the techniques that should be used to handle these materials are those which are followed for radioactive or infectious laboratory materials. Assistance in evaluating laboratory practices may be obtained from industrial hygienists and persons specializing in safe laboratory practices. Typical infectious waste incinerators are probably not satisfactory devices for disposal of materials highly contaminated with CDDs or CDFs. Safety instructions are outlined in EPA Test Method 613(4.0)

See also: (1) "Program for monitoring potential contamination in the laboratory following the handling and analyses of chlorinated dibenzo-p-dioxins and dibenzofurans" by F. D. Hileman et al., *In:* Human and Environmental Risks of Chlorinated Dioxins and Related Compounds, R.E. Tucker, et al, eds., Plenum Publishing Corp., 1983. 2) Safety procedures outlined in EPA Method 613, Federal Register volume 44, No. 233, December 3, 1979.

romatograph and all required accesso-
icluding syringes, analytical columns,
ases.
Column: SP-2250 coated on a 30 m
(0.25 mm I.D. glass column (Supelco
-3714 or equivalent). Glass capillary
n conditions: Helium carrier gas at 30
c linear velocity run splitless. Column
rature is 210 °C.
Mass spectrometer: Capable of scan-
rom 35 to 450 amu every 1 sec or less,
ng 70 volts (nominal) electron energy
electron impact ionization mode and
cing a mass spectrum which meets all
iteria in Table 2 when 50 ng of deca-
triphenyl-phosphine (DFTPP) is in-
through the GC inlet. The system
also be capable of selected ion moni-
(SIM) for at least 4 ions simulta-
y, with a cycle time of 1 sec or less.
um integration time for SIM is 100
lected ion monitoring is verified by in-
g .015 ng of TCDD Cl^{37} to give a mini-
signal to noise ratio of 5 to 1 at mass

ABLE 2—DFTPP KEY IONS AND ION ABUNDANCE CRITERIA [1]

	Ion abundance criteria
51	30-60% of mass 198.
68	Less than 2% of mass 69.
70	Less than 2% of mass 69.
127	40-60% of mass 198.
197	Less than 1% of mass 198.
198	Base peak, 100% relative abundance.
199	5-9% of mass 198.
275	10-30% of mass 198.
365	Greater than 1% of mass 198.
441	Present but less than mass 443.
442	Greater than 40% of mass 198.
443	17-23% of mass 442.

. Eichelberger, L.E. Harris, and W.L. Budde. 1975.
e compound to calibrate ion abundance measure-
gas chromatography-mass spectrometry. Analytical
y 47:995.

GC/MS interface: Any GC-to-MS
ace that gives acceptable calibration
at 50 ng per injection for each com-
of interest and achieves acceptable
performance criteria (see Sections
rough 6.3) may be used. GC-to-MS
aces constructed of all glass or glass-
materials are recommended. Glass can
ctivated by silanizing with dichlorodi-
ylsilane. The interface must be capable
nsporting at least 10 ng of the compo-
of interest from the GC to the MS.
Data system: A computer system
be interfaced to the mass spectrome-
he system must allow the continuous
ition and storage on machine-readable
of all mass spectra obtained through-
he duration of the chromatographic
am. The computer must have software
can search any GC/MS data file for ions of a specific mass and that can plot such ion abundances versus time or scan number. This type of plot is defined as an Extracted Ion Current Profile (EICP). Software must also be able to integrate the abundance, in any EICP, between specified time or scan number limits.

4.4 Pipettes-Disposable, Pasteur, 150 mm long × 5 mm ID (Fisher Scientific Co., No. 13-678-6A or equivalent).

4.5 Flint glass bottle (Teflon-lined screw cap).

4.6 Reacti-vial (silanized) (Pierce Chemical Co.).

5. *Reagents*

5.1 Potassium hydroxide-(ACS), 2% in distilled water.

5.2 Sulfuric acid-(ACS), concentrated.

5.3 Methylene chloride, hexane, benzene, petroleum ether, methanol, tetradecane-pesticide quality or equivalent.

5.4 Prepare stock standard solutions of TCDD and ^{37}Cl-TCDD (molecular weight 328) in a glove box. The stock solutions are stored in a glovebox, and checked frequently for signs of degradation or evaporation, especially just prior to the preparation of working standards.

5.5 Alumina-basic, Woelm: 80/200 mesh. Before use activate overnight at 600°C, cool to room temperature in a dessicator.

5.6 Prepurified nitrogen gas

6.0 *Calibration*

6.1 Before using any cleanup procedure, the analyst must process a series of calibration standards through the procedure to validate elution patterns and the absence of interferences from reagents.

6.2 Prepare GC/MS calibration standards for the internal standard technique that will allow for measurement of relative response factors of at least three CDD/^{37}CDD ratios. Thus, for TCDDs, at least three TCDD/^{37}Cl-TCDD and TCDF/^{37}Cl-TCDF must be determined.[5] The ^{37}Cl-TCDD/F concentration in the standard should be fixed and selected to yield a reproducible response at the most sensitive setting of the mass spectrometer. Response factors for PCDD and HxCDD may be determined by measuring the response of the tetrachloro-labelled compounds relative to that of the unlabelled 1,2,3,4- or 2,3,7,8-TCDD, 1,2,3,4,7-PCDD or 1,2,3,4,7,8-HxCDD, which are commercially available.[6]

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[5] ^{37}Cl-labelled 2,3,7,8-TCDD and 2,3,7,8-TCDF are available from K.O.R. Isotopes, and Cambridge Isotopes, Inc., Cambridge, MA. Proper standardization requires the use of a specific labelled isomer for each congener to be determined. However, the only labelled isomers readily available are ^{37}Cl-2,3,7,8-TCDD and ^{37}Cl-2,3,7,8-TCDF. This method therefore uses these isomers as surrogates for the CDDs and CDFs. When other labelled CDDs and CDFs are available, their use will be required.

6.3 Assemble the necessary GC/MS apparatus and establish operating parameters equivalent to those indicated in Section 11.1 of this method. Calibrate the GC/MS system according to Eichelberger, et al. (1975) by the use of decafluorotriphenyl phosphine (DFTPP). By injecting calibration standards, establish the response factors for CDDs *vs.* ^{37}Cl-TCDD, and for CDFs *vs.* ^{37}Cl-TCDF. The detection limit provided in Table 1 should be verified by injecting .015 ng of ^{37}Cl-TCDD which should give a minimum signal to noise ratio of 5 to 1 at mass 328.

7. *Quality Control*

7.1 Before processing any samples, the analyst should demonstrate through the analysis of a distilled water method blank, that all glassware and reagents are interference-free. Each time a set of samples is extracted, or there is a change in reagents, a method blank should be processed as a safeguard against laboratory contamination.

7.2 Standard quality assurance practices must be used with this method. Field replicates must be collected to measure the precision of the sampling technique. Laboratory replicates must be analyzed to establish the precision of the analysis. Fortified samples must be analyzed to establish the accuracy of the analysis.

8. *Sample Collection, Preservation, and Handling*

8.1 Grab and composite samples must be collected in glass containers. Conventional sampling practices should be followed, except that the bottle must not be prewashed with sample before collection. Composite samples should be collected in glass containers in accordance with the requirements of the RCRA program. Sampling equipment must be free of tygon and other potential sources of contamination.

8.2 The samples must be iced or refrigerated from the time of collection until extraction. Chemical preservatives should not be used in the field unless more than 24 hours will elapse before delivery to the laboratory. If an aqueous sample is taken and the sample will not be extracted within 48 hours of collection, the sample should be adjusted to a pH range of 6.0-8.0 with sodium hydroxide or sulfuric acid.

8.3 All samples must be extracted within 7 days and completely analyzed within [illegible] days of collection.

9. *Extraction and Cleanup Procedures*

9.1 Use an aliquot of 1-10 g sample of the chemical waste or soil to be analyzed. Soils should be dried using a stream of prepurified nitrogen and pulverized in a ball-mill or similar device. Perform this operation in a clear area with proper hood space. Transfer the sample to a tared 125 ml flint glass bottle (Teflon-lined screw cap) and determine the weight of the sample. Add an appropriate quantity of ^{37}Cl-labelled 2,3,7,8-TCDD (adjust the quantity according to the required minimum detectable concentration), which is employed as an internal standard.

9.2 Extraction

9.2.1 Extract chemical waste samples by adding 10 ml methanol, 40 ml petroleum ether, 50 ml doubly distilled water, and then shaking the mixture for 2 minutes. Tars should be completely dissolved in any of the recommended neat solvents. Activated carbon samples must be extracted with benzene using method 3540 in SW-846 (Test Methods for Evaluating Solid Waste—Physical/Chemical Methods, available from G.P.O. Stock #055-022-81001-2). Quantitatively transfer the organic extract or dissolved sample to a clean 250 ml flint glass bottle (Teflon lined screw cap), add 50 ml doubly distilled water and shake for 2 minutes. Discard the aqueous layer and proceed with Step 9.3.

9.2.2 Extract soil samples by adding [illegible] ml of petroleum ether to the sample, and then shaking for 20 minutes. Quantitatively transfer the organic extract to a clean [illegible] ml flint glass bottle (Teflon-lined screw cap), add 50 ml doubly distilled water and shake for 2 minutes. Discard the aqueous layer and proceed with Step 9.3.

9.3 Wash the organic layer with 50 ml of 20% aqueous potassium hydroxide by shaking for 10 minutes and then remove and discard the aqueous layer.

9.4 Wash the organic layer with 50 ml of doubly distilled water by shaking for 2 minutes, and discard the aqueous layer.

9.5 Cautiously add 50 ml concentrated sulfuric acid and shake for 10 minutes. Allow the mixture to stand until layers separate (approximately 10 minutes), and remove and discard the acid layer. Repeat acid washing until no color is visible in the acid layer.

9.6 Add 50 ml of doubly distilled water to the organic extract and shake for 2 minutes. Remove and discard the aqueous layer and dry the organic layer by adding 10g of anhydrous sodium sulfate.

9.7 Concentrate the extract to incipient dryness by heating in a 55° C water bath and simultaneously flowing a stream of preurified nitrogen over the extract. Quanti- atively transfer the residue to an alumina icrocolumn fabricated as follows:

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[6] This procedure is adopted because standards are not available for most of the CDDs and CDFs, and assumes that all the congeners will show the same response as the unlabelled congener used as a standard. Although this assumption may not be true in all cases, the error will be small.

9.7.1 Cut off the top section of a 10 ml isposable Pyrex pipette at the 4.0 ml mark nd insert a plug of silanized glass wool into ne tip of the lower portion of the pipette.

9.7.2 Add 2.8g of Woelm basic alumina previously activated at 600° C overnight nd then cooled to room temperature in a esiccator just prior to use).

9.7.3 Transfer sample extract with a nall volume of methylene chloride.

9.8 Elute the microcolumn with 10 ml of % methylene chloride-in-hexane followed y 15 ml of 20% methylene chloride-in- exane and discard these effluents. Elute ne column with 15 ml of 50% methylene hloride-in-hexane and concentrate this ef- uent (55° C water bath, stream of prepuri- ed nitrogen) to about 0.3–0.5 ml.

9.9 Quantitatively transfer the residue sing methylene chloride to rinse the con- ainer) to a silanized Reacti-Vial (Pierce hemical Co.). Evaporate, using a stream of repurified nitrogen, almost to dryness, nse the walls of the vessel with approxi- ately 0.5 ml methylene chloride, evaporate st to dryness, and tightly cap the vial. tore the vial at 5° C until analysis, at hich time the sample is reconstituted by he addition of tridecane.

9.10 Approximately 1 hour before GC- IS (HRGC-LRMS) analysis, dilute the resi- ue in the micro-reaction vessel with an ap- ropriate quantity of tridecane. Gently virl the tridecane on the lower portion of he vessel to ensure dissolution of the CDDs nd CDFs. Analyze a sample by GC/EC to rovide insight into the complexity of the roblem, and to determine the manner in hich the mass spectrometer should be sed. Inject an appropriate aliquot of the ample into the GC-MS instrument, using a yringe.

9.11 If, upon preliminary GC-MS analy- s, the sample appears to contain interfer- g substances which obscure the analyses for CDDs and CDFs, high performance liquid chromatographic (HPLC) cleanup of the extract is accomplished, prior to further GC-MS analysis.

10. *HPLC Cleanup Procedure*[7]

10.1 Place approximately 2 ml of hexane in a 50 ml flint glass sample bottle fitted with a Teflon-lined cap.

10.2 At the appropriate retention time, position sample bottle to collect the required fraction.

10.3 Add 2 ml of 5% (w/v) sodium carbonate to the sample fraction collected and shake for one minute.

10.4 Quantitatively remove the hexane layer (top layer) and transfer to a micro-reaction vessel.

10.5 Concentrate the fraction to dryness and retain for further analysis.

11. *GC/MS Analysis*

11.1 The following column conditions are recommended: Glass capillary column conditions: SP-2250 coated on a 30 m long x 0.25 mm I.D. glass column (Supelco No. 2-3714, or equivalent) with helium carrier gas at 30 cm/sec linear velocity, run splitless. Column temperature is 210°C. Under these conditions the retention time for TCDDs is about 9.5 minutes. Calibrate the system daily with, a minimum, three injections of standard mixtures.

11.2 Calculate response factors for standards relative to ^{37}Cl-TCDD/F (see Section 12).

11.3 Analyze samples with selected ion monitoring of at least two ions from Table 3. Proof of the presence of CDD or CDF exists if the following conditions are met:

11.3.1 The retention time of the peak in the sample must match that in the standard, within the performance specifications of the analytical system.

11.3.2 The ratio of ions must agree within 10% with that of the standard.

11.3.3 The retention time of the peak maximum for the ions of interest must exactly match that of the peak.

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[7] For cleanup see also method #8320 or 8330, SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (1982).

TABLE 3—LIST OF ACCURATE MASSES MONITORED USING GC SELECTED-ION MONITORING, LOW RESOLUTION, MASS SPECTROMETRY FOR SIMULTANEOUS DETERMINATION OF TETRA-, PENTA, AND HEXACHLORINATED DIBENZO-*p*-DIOXINS AND DIBENZOFURANS

Class of chlorinated dibenzodioxin or dibenzofuran	Number of chlorine substituents (x)	Monitored m/z for dibenzodioxins $C_{12}H_{8-x}O_2l_x$	Monitored m/z for dibenzofurans $C_{12}H_{8-x}OCl_x$	Approximate theoretica ratio expected on basis of isotopic abundance
Tetra	4	[1] 319.897	[1] 303.902	0.7
		321.894	305.903	1.0
		[2] 327.885	[2] 311.894	
		[3] 256.933		0.2
		[3] 258.930		0.2
Penta	5	[1] 353.858	[1] 337.863	0.5
		355.855	339.860	1.0
Hexa	6	389.816	373.821	1.0
		391.813	375.818	0.8

[1] Molecular ion peak.
[2] Cl_4—labelled standard peaks.
[3] Ions which can be monitored in TCDD analyses for confirmation purposes.

11.4 Quantitate the CDD and CDF peaks from the response relative to the ^{37}Cl-TCDD/F internal standards. Recovery of the internal standard should be greater than 50 percent.

11.5 If a response is obtained for the appropriate set of ions, but is outside the expected ratio, a co-eluting impurity may be suspected. In this case, another set of ions characteristic of the CDD/CDF molecules should be analyzed. For TCDD a good choice of ions is m/e 257 and m/e 259. For TCDF a good choice of ions is m/e 241 and 243. These ions are useful in characterizing the molecular structure to TCDD or TCDF. For analysis of TCDD good analytical technique would require using all four ions, m/e 257, 320, 322, and 328, to verify detection and signal to noise ratio of 5 to 1. Suspected impurities such as DDE, DDD, or PCB residues can be confirmed by checking for their major fragments. These materials can be removed by the cleanup columns. Failure to meet criteria should be explained in the report, or the sample reanalyzed.

11.6 If broad background interference restricts the sensitivity of the GC/MS analysis, the analyst should employ cleanup procedures and reanalyze by GC/MS. See section 10.0.

11.7 In those circumstances where these procedures do not yield a definitive conclusion, the use of high resolution mass spectrometry is suggested.

12. *Calculations*

12.1 Determine the concentration of individual compounds according to the formula:

$$\text{Concentration, } \mu g/gm = \frac{A \times A_s}{G \times A_{is} \times R_f}$$

where:

A = µg of internal standard added to the sample [8]

G = gm of sample extracted

A_s = area of characteristic ion of the compound being quantified.

A_{is} = area of characteristic ion of the internal standard

R_f = response factor [9]

Response factors are calculated using data obtained from the analysis of standards according to the formula:

$$Rf = \frac{A_s \times C_{is}}{A_{is} \times C_s}$$

where:

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[8] The proper amount of standard to be used is determined from the calibration curve (See Section 6.0).

[9] If standards for PCDDs/Fs and HxCDDs/Fs are not available, response factors for ions derived from these congeners are calculated relative to ^{37}Cl-TCDD/F. The analyst may use response factors for 1,2,3,4 or 2.3.7.8-TCDD, 1,2,3,4,7-PeCDD, or 1,2,3,4,7,8-HxCDD for quantitation of TCDDs/Fs, PeCDDs/Fs and HxCDDs/Fs respectively. Implicit in this requirement is the assumption that the same response is obtained from PCDDs/Fs ccontaining the same numbers of chlorine atoms.

C_{is}=concentration of the internal standard
C_c=concentration of the standard compound

12.2 Report results in micrograms per gram without correction for recovery data. When duplicate and spiked samples are analyzed, all data obtained should be reported.

12.3 Accuracy and Precision. No data are available at this time.

[50 FR 2001, Jan. 14, 1985]

PART 262—STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE

Subpart A—General

Sec.

262.10 Purpose, scope, and applicability.
262.11 Hazardous waste determination.
262.12 EPA identification numbers.

Subpart B—The Manifest

262.20 General requirements.
262.21 Acquisition of manifests.
262.22 Number of copies.
262.23 Use of the manifest.

Subpart C—Pre-Transport Requirements

262.30 Packaging.
262.31 Labeling.
262.32 Marking.
262.33 Placarding.
262.34 Accumulation time.

Subpart D—Recordkeeping and Reporting

262.40 Recordkeeping.
262.41 Biennial report.
262.42 Exception reporting.
262.43 Additional reporting.
262.44 Special requirements for generators of between 100 and 1000 kg/mo.

Subpart E—Exports of Hazardous Waste

262.50 Applicability.
262.51 Definitions.
262.52 General requirements.
262.53 Notification of intent to export.
262.54 Special manifest requirements.
262.55 Exception reports.
262.56 Annual reports.
262.57 Recordkeeping.
262.58 International agreements. [Reserved]

Subpart F—Imports of Hazardous Waste

262.60 Imports of hazardous waste.

Sec.

Subpart G—Farmers

262.70 Farmers.

APPENDIX—UNIFORM HAZARDOUS WASTE MANIFEST AND INSTRUCTIONS (EPA FORMS 8700-22 AND 8700-22A AND THEIR INSTRUCTIONS)

AUTHORITY: 42 U.S.C. 6906, 6912, 6922, 6923, 6924, 6925, and 6937.

SOURCE: 45 FR 33142, May 19, 1980, unless otherwise noted.

Subpart A—General

§ 262.10 Purpose, scope, and applicability.

(a) These regulations establish standards for generators of hazardous waste.

(b) A generator who treats, stores, or disposes of hazardous waste on-site must only comply with the following sections of this part with respect to that waste: Section 262.11 for determining whether or not he has a hazardous waste, § 262.12 for obtaining an EPA identification number, § 262.34 for accumulation of hazardous waste, § 262.40 (c) and (d) for recordkeeping, § 262.43 for additional reporting, and if applicable, § 262.70 for farmers.

(c) Any person who imports hazardous waste into the United States must comply with the standards applicable to generators established in this part.

(d) A farmer who generates waste pesticides which are hazardous waste and who complies with all of the requirements of § 262.70 is not required to comply with other standards in this part or 40 CFR parts 270, 264, 265, or 268 with respect to such pesticides.

(e) A person who generates a hazardous waste as defined by 40 CFR Part 261 is subject to the compliance requirements and penalties prescribed in section 3008 of the Act if he does not comply with the requirements of this part.

(f) An owner or operator who initiates a shipment of hazardous waste from a treatment, storage, or disposal facility must comply with the generator standards established in this part.

NOTE 1: The provisions of § 262.34 are applicable to the on-site accumulation of hazardous waste by generators. Therefore, the provisions of § 262.34 only apply to owners or operators who are shipping hazardous waste which they generated at that facility.

NOTE 2: A generator who treats, stores, or disposes of hazardous waste on-site must comply with the applicable standards and permit requirements set forth in 40 CFR Parts 264, 265, and 266 and Part 270.

[45 FR 33142, May 19, 1980, as amended at 45 FR 86970, Dec. 31, 1980; 47 FR 1251, Jan. 11, 1982; 48 FR 14294, Apr. 1, 1983; 53 FR 27164, July 19, 1988]

§ 262.11 Hazardous waste determination.

A person who generates a solid waste, as defined in 40 CFR 261.2, must determine if that waste is a hazardous waste using the following method:

(a) He should first determine if the waste is excluded from regulation under 40 CFR 261.4.

(b) He must then determine if the waste is listed as a hazardous waste in Subpart D of 40 CFR Part 261.

NOTE: Even if the waste is listed, the generator still has an opportunity under 40 CFR 260.22 to demonstrate to the Administrator that the waste from his particular facility or operation is not a hazardous waste.

(c) For purposes of compliance with 40 CFR part 268, or if the waste is not listed in subpart D of this part, the generator must then determine whether the waste is identified in subpart C of 40 CFR part 261 by either:

(1) Testing the waste according to the methods set forth in Subpart C of 40 CFR Part 261, or according to an equivalent method approved by the Administrator under 40 CFR 260.21; or

(2) Applying knowledge of the hazard characteristic of the waste in light of the materials or the processes used.

(d) If the waste is determined to be hazardous, the generator must refer to Parts 264, 265, 268 of this chapter for possible exclusions or restrictions pertaining to management of his specific waste.

[45 FR 33142, May 19, 1980, as amended at 45 FR 76624, Nov. 19, 1980; 51 FR 40637, Nov. 7, 1986; 55 FR 22684, June 1, 1990]

§ 262.12 EPA identification numbers.

(a) A generator must not treat, store, dispose of, transport, or offer for transportation, hazardous waste without having received an EPA identification number from the Administrator.

(b) A generator who has not received an EPA identification number may obtain one by applying to the Administrator using EPA form 8700-12. Upon receiving the request the Administrator will assign an EPA identification number to the generator.

(c) A generator must not offer his hazardous waste to transporters or to treatment, storage, or disposal facilities that have not received an EPA identification number.

Subpart B—The Manifest

§ 262.20 General requirements.

(a) A generator who transports, or offers for transportation, hazardous waste for offsite treatment, storage, or disposal must prepare a Manifest OMB control number 2050-0039 on EPA form 8700-22, and, if necessary, EPA form 8700-22A, according to the instructions included in the Appendix to Part 262.

(b) A generator must designate on the manifest one facility which is permitted to handle the waste described on the manifest.

(c) A generator may also designate on the manifest one alternate facility which is permitted to handle his waste in the event an emergency prevents delivery of the waste to the primary designated facility.

(d) If the transporter is unable to deliver the hazardous waste to the designated facility or the alternate facility, the generator must either designate another facility or instruct the transporter to return the waste.

(e) The requirements of this subpart do not apply to hazardous waste produced by generators of greater than 100 kg but less than 1000 kg in a calendar month where:

(1) The waste is reclaimed under a contractual agreement pursuant to which:

(i) The type of waste and frequency of shipments are specified in the agreement;

(ii) The vehicle used to transport the waste to the recycling facility and to deliver regenerated material back to the generator is owned and operated by the reclaimer of the waste; and

(2) The generator maintains a copy of the reclamation agreement in his files for a period of at least three years after termination or expiration of the agreement.

45 FR 33142, May 19, 1980, as amended at 49 FR 10500, Mar. 20, 1984; 51 FR 10175, Mar. 24, 1986; 53 FR 45090, Nov. 8, 1988]

§ 262.21 Acquisition of manifests.

(a) If the State to which the shipment is manifested (consignment State) supplies the manifest and requires its use, then the generator must use that manifest.

(b) If the consignment State does not supply the manifest, but the State n which the generator is located (generator State) supplies the manifest and requires its use, then the generaor must use that State's manifest.

(c) If neither the generator State nor the consignment State supplies he manifest, then the generator may obtain the manifest from any source.

49 FR 10500, Mar. 20, 1984]

§ 262.22 Number of copies.

The manifest consists of at least the number of copies which will provide he generator, each transporter, and he owner or operator of the designatd facility with one copy each for heir records and another copy to be eturned to the generator.

§ 262.23 Use of the manifest.

(a) The generator must:

(1) Sign the manifest certification by hand; and

(2) Obtain the handwritten signaure of the initial transporter and date of acceptance on the manifest; and

(3) Retain one copy, in accordance with § 262.40(a).

(b) The generator must give the ransporter the remaining copies of he manifest.

(c) For shipments of hazardous waste within the United States solely by water (bulk shipments only), the generator must send three copies of he manifest dated and signed in acordance with this section to the owner or operator of the designated facility or the last water (bulk shipment) transporter to handle the waste in the United States if exported by water. Copies of the manifest are not required for each transporter.

(d) For rail shipments of hazardous waste within the United States which originate at the site of generation, the generator must send at least three copies of the manifest dated and signed in accordance with this section to:

(1) The next non-rail transporter, if any; or

(2) The designated facility if transported solely by rail; or

(3) The last rail transporter to handle the waste in the United States if exported by rail.

(e) For shipments of hazardous waste to a designated facility in an authorized State which has not yet obtained authorization to regulate that particular waste as hazardous, the generator must assure that the designated facility agrees to sign and return the manifest to the generator, and that any out-of-state transporter signs and forwards the manifest to the designated facility.

NOTE: See § 263.20(e) and (f) for special provisions for rail or water (bulk shipment) transporters.

[45 FR 33142, May 19, 1980, as amended at 45 FR 86973, Dec. 31, 1980; 55 FR 2354, Jan. 23, 1990]

EFFECTIVE DATE NOTE: At 55 FR 2354, Jan. 23, 1990, § 262.23 paragraph (e) was added, effective July 23, 1990.

Subpart C—Pre-Transport Requirements

§ 262.30 Packaging.

Before transporting hazardous waste or offering hazardous waste for transportation off-site, a generator must package the waste in accordance with the applicable Department of Transportation regulations on packaging under 49 CFR Parts 173, 178, and 179.

§ 262.31 Labeling.

Before transporting or offering hazardous waste for transportation offsite, a generator must label each package in accordance with the applicable Department of Transportation regulations on hazardous materials under 49 CFR Part 172.

§ 262.32 Marking.

(a) Before transporting or offering hazardous waste for transportation off-site, a generator must mark each package of hazardous waste in accordance with the applicable Department of Transportation regulations on hazardous materials under 49 CFR Part 172;

(b) Before transporting hazardous waste or offering hazardous waste for transportation off-site, a generator must mark each container of 110 gallons or less used in such transportation with the following words and information displayed in accordance with the requirements of 49 CFR 172.304:

HAZARDOUS WASTE—Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the U.S. Environmental Protection Agency.

Generator's Name and Address ———.
Manifest Document Number ———.

§ 262.33 Placarding.

Before transporting hazardous waste or offering hazardous waste for transportation off-site, a generator must placard or offer the initial transporter the appropriate placards according to Department of Transportation regulations for hazardous materials under 49 CFR Part 172, Subpart F.

§ 262.34 Accumulation time.

(a) Except as provided in paragraphs (d), (e), and (f) of this section, a generator may accumulate hazardous waste on-site for 90 days or less without a permit or without having interim status, provided that:

(1) The waste is placed in containers and the generator complies with Subpart I of 40 CFR Part 265, or the waste is placed in tanks and the generator complies with Subpart J of 40 CFR Part 265, except § 265.197(c), and § 265.200. In addition, such a generator is exempt from all the requirements in Subparts G and H of 40 CFR Part 265, except for § 265.111 and § 265.114.

(2) The date upon which each period of accumulation begins is clearly marked and visible for inspection on each container;

(3) While being accumulated on-site, each container and tank is labeled or marked clearly with the words, "Hazardous Waste"; and

(4) The generator complies with the requirements for owners or operators in subparts C and D in 40 CFR part 265, with § 265.16, and with 40 CFR 268.7(a)(4).

(b) A generator who accumulates hazardous waste for more than 90 days is an operator of a storage facility and is subject to the requirements of 40 CFR Parts 264 and 265 and the permit requirements of 40 CFR Part 270 unless he has been granted an extension to the 90-day period. Such extension may be granted by EPA if hazardous wastes must remain on-site for longer than 90 days due to unforeseen, temporary, and uncontrollable circumstances. An extension of up to 30 days may be granted at the discretion of the Regional Administrator on a case-by-case basis.

(c)(1) A generator may accumulate as much as 55 gallons of hazardous waste or one quart of acutely hazardous waste listed in § 261.33(e) in containers at or near any point of generation where wastes initially accumulate, which is under the control of the operator of the process generating the waste, without a permit or interim status and without complying with paragraph (a) of this section provided he:

(i) Complies with §§ 265.171, 265.172 and 265.173(a) of this chapter; and

(ii) Marks his containers either with the words "Hazardous Waste" or with other words that identify the contents of the containers.

(2) A generator who accumulates either hazardous waste or acutely hazardous waste listed in § 261.33(e) in excess of the amounts listed in paragraph (c)(1) of this section at or near any point of generation must, with respect to that amount of excess waste, comply within three days with paragraph (a) of this section or other applicable provisions of this chapter. During the three day period the generator must continue to comply with paragraphs (c)(1)(i) through (ii) of this section. The generator must mark

the container holding the excess accumulation of hazardous waste with the date the excess amount began accumulating.

(d) A generator who generates greater than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month may accumulate hazardous waste on-site for 180 days or less without a permit or without having interim status provided that:

(1) The quantity of waste accumulated on-site never exceeds 6000 kilograms;

(2) The generator complies with the requirements of Subpart I of Part 265, except § 265.176;

(3) The generator complies with the requirements of § 265.201 in Subpart J of Part 265;

(4) The generator complies with the requirements of paragraphs (a)(2) and (a)(3) of this section and the requirements of Subpart C of Part 265; and

(5) The generator complies with the following requirements:

(i) At all times there must be at least one employee either on the premises or on call (*i.e.*, available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures specified in paragraph (d)(5)(iv) of this section. This employee is the emergency coordinator.

(ii) The generator must post the following information next to the telephone:

(A) The name and telephone number of the emergency coordinator;

(B) Location of fire extinguishers and spill control material, and, if present, fire alarm; and

(C) The telephone number of the fire department, unless the facility has a direct alarm.

(iii) The generator must ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures, relevant to their responsibilities during normal facility operations and emergencies;

(iv) The emergency coordinator or his designee must respond to any emergencies that arise. The applicable responses are as follows:

(A) In the event of a fire, call the fire department or attempt to extinguish it using a fire extinguisher;

(B) In the event of a spill, contain the flow of hazardous waste to the extent possible, and as soon as is practicable, clean up the hazardous waste and any contaminated materials or soil;

(C) In the event of a fire, explosion, or other release which could threaten human health outside the facility or when the generator has knowledge that a spill has reached surface water, the generator must immediately notify the National Response Center (using their 24-hour toll free number 800/424-8802). The report must include the following information:

(1) The name, address, and U.S. EPA Identification Number of the generator;

(2) Date, time, and type of incident (*e.g.*, spill or fire);

(3) Quantity and type of hazardous waste involved in the incident;

(4) Extent of injuries, if any; and

(5) Estimated quantity and disposition of recovered materials, if any.

(e) A generator who generates greater than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month and who must transport his waste, or offer his waste for transportation, over a distance of 200 miles or more for off-site treatment, storage or disposal may accumulate hazardous waste on-site for 270 days or less without a permit or without having interim status provided that he complies with the requirements of paragraph (d) of this section.

(f) A generator who generates greater than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month and who accumulates hazardous waste in quantities exceeding 6000 kg or accumulates hazardous waste for more than 180 days (or for more than 270 days if he must transport his waste, or offer his waste for transportation, over a distance of 200 miles or more) is an operator of a storage facility and is subject to the requirements of 40 CFR Parts 264 and 265 and the permit requirements of 40 CFR Part 270 unless he has been granted an extension to the 180-day (or 270-day if applicable) period. Such extension may be granted by EPA if hazardous wastes must remain on-site for longer than 180 days (or 270 days if applicable) due to unforeseen, temporary, and uncontrollable circumstances. An extension of up to 30 days may be granted at the discretion of the Regional Administrator on a case-by-case basis.

[47 FR 1251, Jan. 11, 1982, as amended at 48 FR 14294, Apr. 1, 1983; 49 FR 49571, Dec. 20, 1984; 51 FR 10175, Mar. 24, 1986; 51 FR 25472, July 14, 1986; 55 FR 22684, June 1, 1990]

Subpart D—Recordkeeping and Reporting

§ 262.40 Recordkeeping.

(a) A generator must keep a copy of each manifest signed in accordance with § 262.23(a) for three years or until he receives a signed copy from the designated facility which received the waste. This signed copy must be retained as a record for at least three years from the date the waste was accepted by the initial transporter.

(b) A generator must keep a copy of each Biennial Report and Exception Report for a period of at least three years from the due date of the report.

(c) A generator must keep records of any test results, waste analyses, or other determinations made in accordance with § 262.11 for at least three years from the date that the waste was last sent to on-site or off-site treatment, storage, or disposal.

(d) The periods or retention referred to in this section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Administrator.

[45 FR 33142, May 19, 1980, as amended at 48 FR 3981, Jan. 28, 1983]

§ 262.41 Biennial report.

(a) A generator who ships any hazardous waste off-site to a treatment, storage or disposal facility within the United States must prepare and submit a single copy of a Biennial Report to the Regional Administrator by March 1 of each even numbered year. The Biennial Report must be submitted on EPA Form 8700-13A, must cover generator activities during the previous year, and must include the following information:

(1) The EPA identification number, name, and address of the generator;

(2) The calendar year covered by the report;

(3) The EPA identification number, name, and address for each off-site treatment, storage, or disposal facility in the United States to which waste was shipped during the year;

(4) The name and EPA identification number of each transporter used during the reporting year for shipments to a treatment, storage or disposal facility within the United States;

(5) A description, EPA hazardous waste number (from 40 CFR Part 26 Subpart C or D), DOT hazard class and quantity of each hazardous waste shipped off-site for shipments to a treatment, storage or disposal facility within the United States. This information must be listed by EPA identification number of each such off-site facility to which waste was shipped.

(6) A description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated.

(7) A description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years to the extent such information is available for years prior to 1984.

(8) The certification signed by the generator or authorized representative.

(b) Any generator who treats, stores, or disposes of hazardous waste on-site must submit a biennial report covering those wastes in accordance with the provisions of 40 CFR Parts 270, 26 265, and 266. Reporting for exports of hazardous waste is not required on the Biennial Report form. A separate annual report requirement is set forth at 40 CFR 262.56.

[48 FR 3981, Jan. 28, 1983, as amended at 4 FR 14294, Apr. 1, 1983; 50 FR 28746, Ju 15, 1985; 51 FR 28682, Aug. 8, 1986]

§ 262.42 Exception reporting.

(a)(1) A generator of greater than 1000 kilograms of hazardous waste in a calendar month who does not receive copy of the manifest with the handwritten signature of the owner or op-ator of the designated facility within 35 days of the date the waste was accepted by the initial transporter must contact the transporter and/or the owner or operator of the designated facility to determine the status of the hazardous waste.

(2) A generator of greater than 1000 kilograms of hazardous waste in a calendar month must submit an Excep-ion Report to the EPA Regional Ad-ninistrator for the Region in which he generator is located if he has not received a copy of the manifest with he handwritten signature of the owner or operator of the designated facility within 45 days of the date the waste was accepted by the initial transporter. The Exception Report must include:

(i) A legible copy of the manifest for which the generator does not have confirmation of delivery;

(ii) A cover letter signed by the generator or his authorized representative explaining the efforts taken to locate he hazardous waste and the results of hose efforts.

(b) A generator of greater than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month who does not receive a copy of he manifest with the handwritten sig-ature of the owner or operator of the designated facility within 60 days of he date the waste was accepted by he initial transporter must submit a egible copy of the manifest, with ome indication that the generator has ot received confirmation of delivery, o the EPA Regional Administrator or the Region in which the generator s located.

NOTE: The submission to EPA need only e a handwritten or typed note on the mani-est itself, or on an attached sheet of paper, tating that the return copy was not re-eived.

Information collection requirements ap-roved by the Office of Management and Budget under control number 2050-0039)

52 FR 35898, Sept. 23, 1987]

262.43 Additional reporting.

The Administrator, as he deems nec-essary under sections 2002(a) and 3002(6) of the Act, may require generators to furnish additional reports concerning the quantities and disposition of wastes identified or listed in 40 CFR Part 261.

§ 262.44 Special requirements for generators of between 100 and 1000 kg/mo.

A generator of greater than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month is subject only to the following requirements in this subpart:

(a) Section 262.40(a), (c), and (d), recordkeeping;

(b) Section 262.42(b), exception reporting; and

(c) Section 262.43, additional reporting.

(Information collection requirements approved by the Office of Management and Budget under control number 2050-0039)

[52 FR 35899, Sept. 23, 1987]

Subpart E—Exports of Hazardous Waste

SOURCE: 51 FR 28682, Aug. 8, 1986, unless otherwise noted.

§ 262.50 Applicability.

This subpart establishes requirements applicable to exports of hazardous waste. Except to the extent § 262.58 provides otherwise, a primary exporter of hazardous waste must comply with the special requirements of this subpart and a transporter transporting hazardous waste for export must comply with applicable requirements of Part 263. Section 262.58 sets forth the requirements of international agreements between the United States and receiving countries which establish different notice, export, and enforcement procedures for the transportation, treatment, storage and disposal of hazardous waste for shipments between the United States and those countries.

§ 262.51 Definitions.

In addition to the definitions set forth at 40 CFR 260.10, the following definitions apply to this subpart:

"Consignee" means the ultimate treatment, storage or disposal facility in a receiving country to which the hazardous waste will be sent.

"EPA Acknowledgement of Consent" means the cable sent to EPA from the U.S. Embassy in a receiving country that acknowledges the written consent of the receiving country to accept the hazardous waste and describes the terms and conditions of the receiving country's consent to the shipment.

"Primary Exporter" means any person who is required to originate the manifest for a shipment of hazardous waste in accordance with 40 CFR Part 262, Subpart B, or equivalent State provision, which specifies a treatment, storage, or disposal facility in a receiving country as the facility to which the hazardous waste will be sent and any intermediary arranging for the export.

"Receiving country" means a foreign country to which a hazardous waste is sent for the purpose of treatment, storage or disposal (except short-term storage incidental to transportation).

"Transit country" means any foreign country, other than a receiving country, through which a hazardous waste is transported.

[53 FR 27164, July 19, 1988]

§ 262.52 General requirements.

Exports of hazardous waste are prohibited except in compliance with the applicable requirements of this Subpart and Part 263. Exports of hazardous waste are prohibited unless:

(a) Notification in accordance with § 262.53 has been provided;

(b) The receiving country has consented to accept the hazardous waste;

(c) A copy of the EPA Acknowledgment of Consent to the shipment accompanies the hazardous waste shipment and, unless exported by rail, is attached to the manifest (or shipping paper for exports by water (bulk shipment)).

(d) The hazardous waste shipment conforms to the terms of the receiving country's written consent as reflected in the EPA Acknowledgment of Consent.

(Approved by the Office of Management and Budget under control number 2050-0035)

§ 262.53 Notification of intent to export.

(a) A primary exporter of hazardou waste must notify EPA of an intende export before such waste is schedule to leave the United States. A complet notification should be submitted six (60) days before the initial shipment intended to be shipped off site. Th notification may cover export acti ties extending over a twelve (1 month or lesser period. The notific tion must be in writing, signed by t primary exporter, and include the fo lowing information:

(1) Name, mailing address, telephon number and EPA ID number of t primary exporter;

(2) By consignee, for each hazardou waste type:

(i) A description of the hazardou waste and the EPA hazardous was number (from 40 CFR Part 261, Su parts C and D), U.S. DOT proper shi ping name, hazard class and I number (UN/NA) for each hazardou waste as identified in 49 CFR Par 171 through 177;

(ii) The estimated frequency or r at which such waste is to be exporte and the period of time over whi such waste is to be exported.

(iii) The estimated total quantity the hazardous waste in units as spe fied in the instructions to the Unifor Hazardous Waste Manifest For (8700-22);

(iv) All points of entry to and depa ture from each foreign count through which the hazardous was will pass;

(v) A description of the means which each shipment of the hazardo waste will be transported (e.g., mo of transportation vehicle (air, hig way, rail, water, etc.), type(s) of co tainer (drums, boxes, tanks, etc.));

(vi) A description of the manner which the hazardous waste will treated, stored or disposed of in the ceiving country (e.g., land or ocean cineration, other land disposal, oce dumping, recycling);

(vii) The name and site address the consignee and any alternate co signee; and

(viii) The name of any transit cou tries through which the hazardo waste will be sent and a description the approximate length of time the hazardous waste will remain in such country and the nature of its handling while there;

(b) Notification shall be sent to the Office of International Activities (A-106), EPA, 401 M Street, SW., Washington, DC 20460 with "Attention: Notification to Export" prominently displayed on the front of the envelope.

(c) Except for changes to the telephone number in paragraph (a)(1) of this section, changes to paragraph (a)(2)(v) of this section and decreases in the quantity indicated pursuant to paragraph (a)(2)(iii) of this section when the conditions specified on the original notification change (including any exceedance of the estimate of the quantity of hazardous waste specified in the original notification), the primary exporter must provide EPA with a written renotification of the change. The shipment cannot take place until consent of the receiving country to the changes (except for changes to paragraph (a)(2)(viii) of this section and in the ports of entry to and departure from transit countries pursuant to paragraph (a)(2)(iv) of this section) has been obtained and the primary exporter receives an EPA Acknowledgment of Consent reflecting the receiving country's consent to the changes.

(d) Upon request by EPA, a primary exporter shall furnish to EPA any additional information which a receiving country requests in order to respond to a notification.

(e) In conjunction with the Department of State, EPA will provide a complete notification to the receiving country and any transit countries. A notification is complete when EPA receives a notification which EPA determines satisfies the requirements of paragraph (a) of this section. Where a claim of confidentiality is asserted with respect to any notification information required by paragraph (a) of this section, EPA may find the notification not complete until any such claim is resolved in accordance with 40 CFR 260.2.

(f) Where the receiving country consents to the receipt of the hazardous waste, EPA will forward an EPA Acknowledgment of Consent to the primary exporter for purposes of § 262.54(h). Where the receiving country objects to receipt of the hazardous waste or withdraws a prior consent, EPA will notify the primary exporter in writing. EPA will also notify the primary exporter of any responses from transit countries.

(Approved by the Office of Management and Budget under control number 2050-0035)

§ 262.54 Special manifest requirements.

A primary exporter must comply with the manifest requirements of 40 CFR 262.20 through 262.23 except that:

(a) In lieu of the name, site address and EPA ID number of the designated permitted facility, the primary exporter must enter the name and site address of the consignee;

(b) In lieu of the name, site address and EPA ID number of a permitted alternate facility, the primary exporter may enter the name and site address of any alternate consignee.

(c) In Special Handling Instructions and Additional Information, the primary exporter must identify the point of departure from the United States;

(d) The following statement must be added to the end of the first sentence of the certification set forth in Item 16 of the Uniform Hazardous Waste Manifest Form: "and conforms to the terms of the attached EPA Acknowledgment of Consent";

(e) In lieu of the requirements of § 262.21, the primary exporter must obtain the manifest form from the primary exporter's State if that State supplies the manifest form and requires its use. If the primary exporter's State does not supply the manifest form, the primary exporter may obtain a manifest form from any source.

(f) The primary exporter must require the consignee to confirm in writing the delivery of the hazardous waste to that facility and to describe any significant discrepancies (as defined in 40 CFR 264.72(a)) between the manifest and the shipment. A copy of the manifest signed by such facility may be used to confirm delivery of the hazardous waste.

(g) In lieu of the requirements of § 262.20(d), where a shipment cannot be delivered for any reason to the designated or alternate consignee, the primary exporter must:

(1) Renotify EPA of a change in the conditions of the original notification to allow shipment to a new consignee in accordance with § 262.53(c) and obtain an EPA Acknowledgment of Consent prior to delivery; or

(2) Instruct the transporter to return the waste to the primary exporter in the United States or designate another facility within the United States; and

(3) Instruct the transporter to revise the manifest in accordance with the primary exporter's instructions.

(h) The primary exporter must attach a copy of the EPA Acknowledgment of Consent to the shipment to the manifest which must accompany the hazardous waste shipment. For exports by rail or water (bulk shipment), the primary exporter must provide the transporter with an EPA Acknowledgment of Consent which must accompany the hazardous waste but which need not be attached to the manifest except that for exports by water (bulk shipment) the primary exporter must attach the copy of the EPA Acknowledgment of Consent to the shipping paper.

(i) The primary exporter shall provide the transporter with an additional copy of the manifest for delivery to the U.S. Customs official at the point the hazardous waste leaves the United States in accordance with § 263.20(g)(4).

(Approved by the Office of Management and Budget under control number 2050-0035)

§ 262.55 Exception reports.

In lieu of the requirements of § 262.42, a primary exporter must file an exception report with the Administrator if:

(a) He has not received a copy of the manifest signed by the transporter stating the date and place of departure from the United States within forty-five (45) days from the date it was accepted by the initial transporter;

(b) Within ninety (90) days from the date the waste was accepted by the initial transporter, the primary exporter has not received written confirmation from the consignee that the hazardous waste was received;

(c) The waste is returned to the United States.

(Approved by the Office of Management and Budget under control number 2050-0035)

§ 262.56 Annual reports.

(a) Primary exporters of hazardous waste shall file with the Administrator no later than March 1 of each year, a report summarizing the types, quantities, frequency, and ultimate destination of all hazardous waste exported during the previous calendar year. Such reports shall include the following:

(1) The EPA identification number, name, and mailing and site address of the exporter;

(2) The calendar year covered by the report;

(3) The name and site address of each consignee;

(4) By consignee, for each hazardous waste exported, a description of the hazardous waste, the EPA hazardous waste number (from 40 CFR Part 261, Subpart C or D), DOT hazard class, the name and US EPA ID number (where applicable) for each transporter used, the total amount of waste shipped and number of shipments pursuant to each notification;

(5) Except for hazardous waste produced by exporters of greater than 100 kg but less than 1000 kg in a calendar month, unless provided pursuant to § 262.41, in even numbered years:

(i) A description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated; and

(ii) A description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years to the extent such information is available for years prior to 1984.

(6) A certification signed by the primary exporter which states:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

(b) Reports shall be sent to the following address: Office of International Activities (A-106), Environmental Protection Agency, 401 M Street SW., Washington, DC 20460.

(Approved by the Office of Management and Budget under control number 2050-0035)

§ 262.57 Recordkeeping.

(a) For all exports a primary exporter must:

(1) Keep a copy of each notification of intent to export for a period of at least three years from the date the hazardous waste was accepted by the initial transporter;

(2) Keep a copy of each EPA Acknowledgment of Consent for a period of at least three years from the date the hazardous waste was accepted by the initial transporter;

(3) Keep a copy of each confirmation of delivery of the hazardous waste from the consignee for at least three years from the date the hazardous waste was accepted by the initial transporter; and

(4) Keep a copy of each annual report for a period of at least three years from the due date of the report.

(b) The periods of retention referred to in this section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Administrator.

(Approved by the Office of Management and Budget under control number 2050-0035)

§ 262.58 International agreements. [(Reserved)]

Subpart F—Imports of Hazardous Waste

§ 262.60 Imports of hazardous waste.

(a) Any person who imports hazardous waste from a foreign country into the United States must comply with the requirements of this part and the special requirements of this subpart.

(b) When importing hazardous waste, a person must meet all the requirements of § 262.20(a) for the manifest except that:

(1) In place of the generator's name, address and EPA identification number, the name and address of the foreign generator and the importer's name, address and EPA identification number must be used.

(2) In place of the generator's signature on the certification statement, the U.S. importer or his agent must sign and date the certification and obtain the signature of the initial transporter.

(c) A person who imports hazardous waste must obtain the manifest form from the consignment State if the State supplies the manifest and requires its use. If the consignment State does not supply the manifest form, then the manifest form may be obtained from any source.

[51 FR 28685, Aug. 8, 1986]

Subpart G—Farmers

§ 262.70 Farmers.

A farmer disposing of waste pesticides from his own use which are hazardous wastes is not required to comply with the standards in this part or other standards in 40 CFR Parts 264, 265, 268, or 270 for those wastes provided he triple rinses each emptied pesticide container in accordance with § 261.7(b)(3) and disposes of the pesticide residues on his own farm in a manner consisent with the disposal instructions on the pesticide label.

[53 FR 27165, July 19, 1988]

Appendix—Uniform Hazardous Waste Manifest and Instructions (EPA Forms 8700-22 and 8700-22A and Their Instructions)

U.S. EPA Form 8700-22

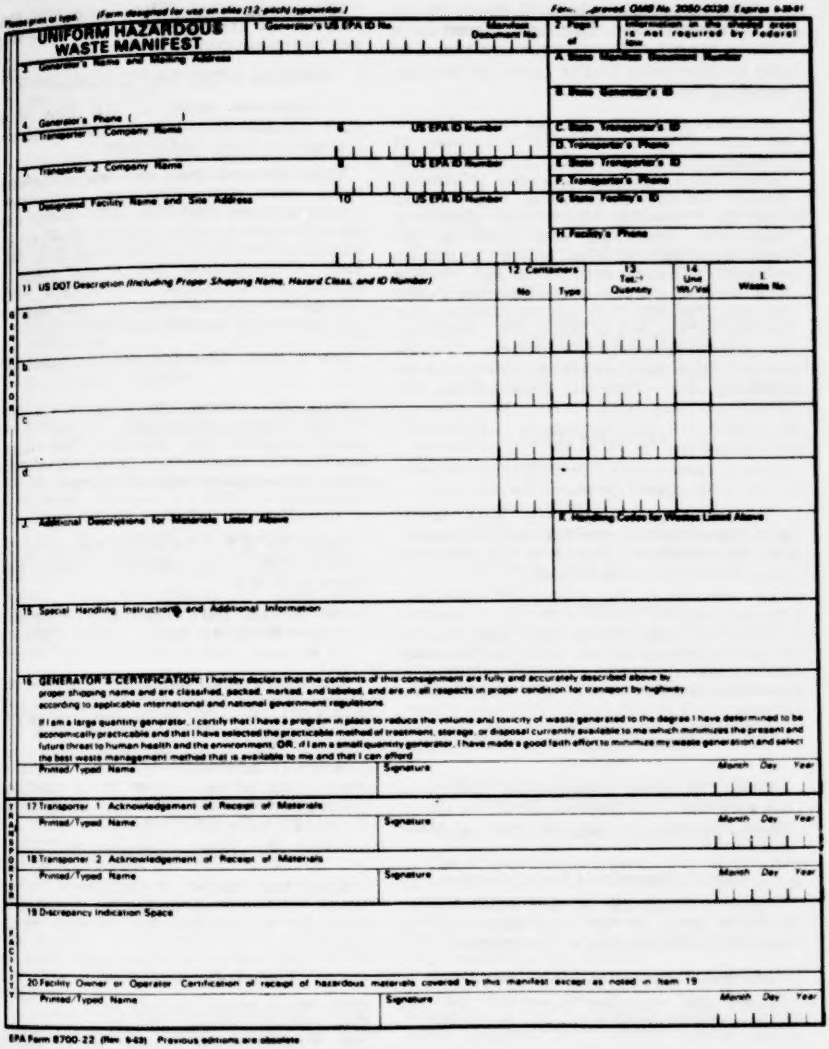
Read all instructions before completing this form.

This form has been designed for use on a 12-pitch (elite) typerwriter; a firm point pen may also be used—press down hard.

Federal regulations require generators and transporters of hazardous waste and owners or operators of hazardous waste treatment, storage, and disposal facilities to use this form (8700-22) and, if necessary, the continuation sheet (Form 8700-22A) for both inter and intrastate transportation.

Federal regulations also require gener tors and transporters of hazardous wast and owners or operators of hazardous wast treatment, storage and disposal facilities t complete the following information:

* * * * *



Please print or type. *(Form designed for use on elite (12-pitch) typewriter.)* Form Approved. OMB No. 2050-0039. Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No. Manifest Document No.	2. Page 1 of	Information in the shaded areas is not required by Federal law.
3. Generator's Name and Mailing Address 4. Generator's Phone ( )		A. State Manifest Document Number B. State Generator's ID	
5. Transporter 1 Company Name	6. US EPA ID Number	C. State Transporter's ID D. Transporter's Phone	
7. Transporter 2 Company Name	8. US EPA ID Number	E. State Transporter's ID F. Transporter's Phone	
9. Designated Facility Name and Site Address	10. US EPA ID Number	G. State Facility's ID H. Facility's Phone	

GENERATOR

11. US DOT Description *(Including Proper Shipping Name, Hazard Class, and ID Number)*	12. Containers		13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
	No.	Type			
a.					
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above	K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name	Signature	Month Day Year

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name	Signature	Month Day Year

EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete.

The following statement must be included with each Uniform Hazardous Waste Manifest, either on the form, in the instructions to the form, or accompanying the form:

Public reporting burden for this collection of information is estimated to average: 37 minutes for generators, 15 minutes for transporters, and 10 minutes for treatment, storage and disposal facilities. This includes time for reviewing instructions, gathering data, and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden, to: Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M Street SW., Washington, DC 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

GENERATORS

Item 1. Generator's U.S. EPA ID Number—Manifest Document Number

Enter the generator's U.S. EPA twelve digit identification number and the unique five digit number assigned to this Manifest (e.g., 00001) by the generator.

Item 2. Page 1 of ——

Enter the total number of pages used to complete this Manifest, i.e., the first page (EPA Form 8700-22) plus the number of Continuation Sheets (EPA Form 8700-22A), if any.

Item 3. Generator's Name and Mailing Address

Enter the name and mailing address of the generator. The address should be the location that will manage the returned Manifest forms.

Item 4. Generator's Phone Number

Enter a telephone number where an authorized agent of the generator may be reached in the event of an emergency.

Item 5. Transporter 1 Company Name

Enter the company name of the first transporter who will transport the waste.

Item 6. U.S. EPA ID Number

Enter the U.S. EPA twelve digit identification number of the first transporter identified in item 5.

Item 7. Transporter 2 Company Name

If applicable, enter the company name of the second transporter who will transport the waste. If more than two transporters are used to transport the waste, use a Continuation Sheet(s) (EPA Form 8700-2 and list the transporters in the order t will be transporting the waste.

Item 8. U.S. EPA ID Number

If applicable, enter the U.S. EPA tw digit identification number of the sec transporter identified in item 7.

NOTE: If more than two transporters used, enter each additional transpor company name and U.S. EPA twelve d identification number in items 24-27 on Continuation Sheet (EPA Form 8700-2 Each Continuation Sheet has space record two additional transporters. Ev transporter used between the generator the designated facility must be listed.

Item 9. Designated Facility Name and S Address

Enter the company name and site add of the facility designated to receive waste listed on this Manifest. The add must be the site address, which may di from the company mailing address.

Item 10. U.S. EPA ID Number

Enter the U.S. EPA twelve digit identif tion number of the designated facility id tified in item 9.

Item 11. U.S. DOT Description [Includ Proper Shipping Name, Hazard Class, ID Number (UN/NA)]

Enter the U.S. DOT Proper Shipp Name, Hazard Class, and ID Number (U NA) for each waste as identified in 49 C 171 through 177.

NOTE: If additional space is needed waste descriptions, enter these additio descriptions in item 28 on the Continuat Sheet (EPA Form 8700-22A).

Item 12. Containers (No. and Type)

Enter the number of containers for e waste and the appropriate abbreviat from Table I (below) for the type of c tainer.

Table I—Types of Containers

DM = Metal drums, barrels, kegs
DW = Wooden drums, barrels, kegs
DF = Fiberboard or plastic drums, barr kegs
TP = Tanks portable
TT = Cargo tanks (tank trucks)
TC = Tank cars
DT = Dump truck
CY = Cylinders
CM = Metal boxes, cartons, cases (includi roll-offs)
CW = Wooden boxes, cartons, cases
CF = Fiber or plastic boxes, cartons, cases

BA=Burlap, cloth, paper or plastic bags

Item 13. Total Quantity

Enter the total quantity of waste described on each line.

Item 14. Unit (Wt./Vol.)

Enter the appropriate abbreviation from Table II (below) for the unit of measure.

Table II—Units of Measure

G=Gallons (liquids only)
P=Pounds
T=Tons (2000 lbs)
Y=Cubic yards
L=Liters (liquids only)
K=Kilograms
M=Metric tons (1000 kg)
N=Cubic meters

Item 15. Special Handling Instructions and Additional Information

Generators may use this space to indicate special transportation, treatment, storage, or disposal information or Bill of Lading information. States may not require additional, new, or different information in this space. For international shipments, generators must enter in this space the point of departure (City and State) for those shipments destined for treatment, storage, or disposal outside the jurisdiction of the United States.

Item 16. Generator's Certification

The generator must read, sign (by hand), and date the certification statement. If a mode *other than* highway is used, the word "highway" should be lined out and the appropriate mode (rail, water, or air) inserted in the space below. If another mode *in addition to* the highway mode is used, enter the appropriate additional mode (e.g., *and rail*) in the space below.

Primary exporters shipping hazardous wastes to a facility located outside of the United States must add to the end of the first sentence of the certification the following words "and conforms to the terms of the EPA Acknowledgment of Consent to the shipment."

In signing the waste minimization certification statement, those generators who have not been exempted by statute or regulation from the duty to make a waste minimization certification under section 3002(b) of RCRA are also certifying that they have complied with the waste minimization requirements.

Generators may preprint the words, "On behalf of" in the signature block or may hand write this statement in the signature block prior to signing the generator certifications.

Note: All of the above information *except* the handwritten signature required in item 16 may be preprinted.

* * * * *

TRANSPORTERS

Item 17. Transporter 1 Acknowledgement of Receipt of Materials

Enter the name of the person accepting the waste on behalf of the first transporter. That person must acknowledge acceptance of the waste described on the Manifest by signing and entering the date of receipt.

Item 18. Transporter 2 Acknowledgement of Receipt of Materials

Enter, if applicable, the name of the person accepting the waste on behalf of the second transporter. That person must acknowledge acceptance of the waste described on the Manifest by signing and entering the date of receipt.

Note: International Shipments—Transporter Responsibilities.

Exports—Transporters must sign and enter the date the waste left the United States in item 15 of Form 8700-22.

Imports—Shipments of hazardous waste regulated by RCRA and transported into the United States from another country must upon entry be accompanied by the U.S. EPA Uniform Hazardous Waste Manifest. Transporters who transport hazardous waste into the United States from another country are responsible for completing the Manifest (40 CFR 263.10(c)(1)).

Owners and Operators of Treatment, Storage, or Disposal Facilities

Item 19. Discrepancy Indication Space

The authorized representative of the designated (or alternate) facility's owner or operator must note in this space any significant discrepancy between the waste described on the Manifest and the waste actually received at the facility.

Owners and operators of facilities located in unauthorized States (i.e., the U.S. EPA administers the hazardous waste management program) who cannot resolve significant discrepancies within 15 days of receiving the waste must submit to their Regional Administrator (see list below) a letter with a copy of the Manifest at issue describing the discrepancy and attempts to reconcile it (40 CFR 264.72 and 265.72).

Owners and operators of facilities located in authorized States (i.e., those States that have received authorization from the U.S. EPA to administer the hazardous waste program) should contact their State agency for information on State Discrepancy Report requirements.

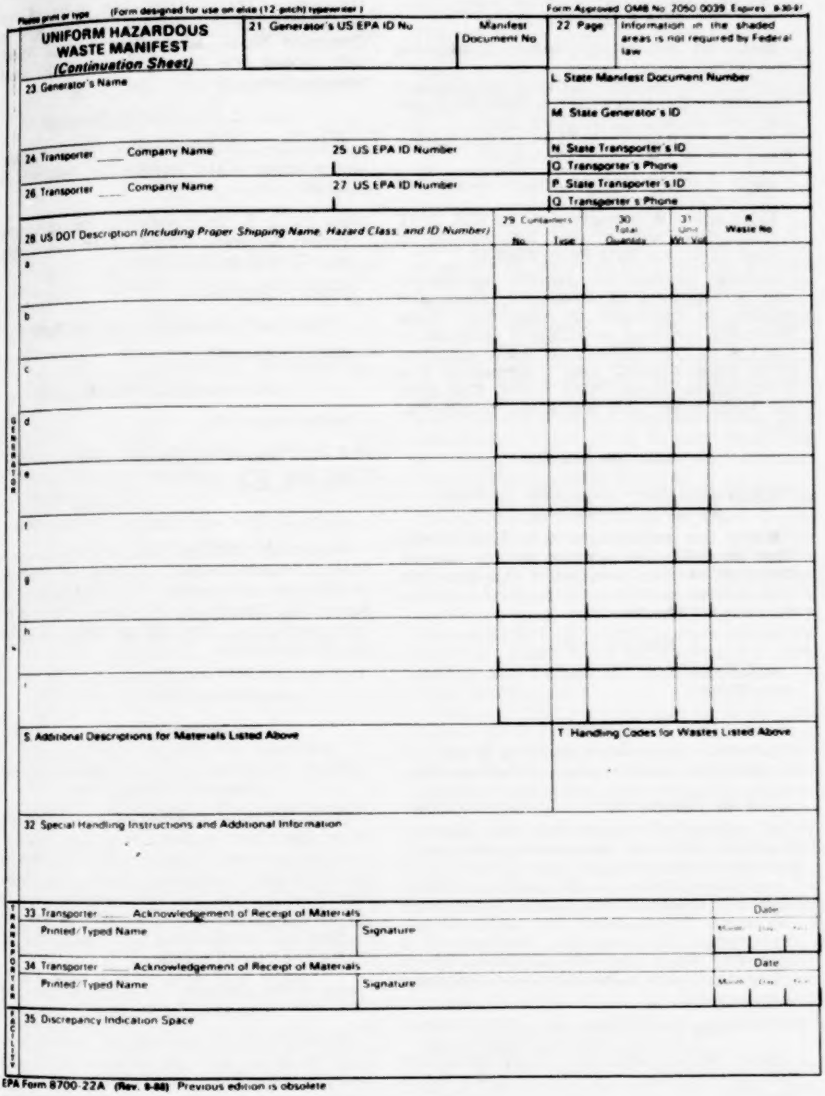
EPA Regional Administrators

Regional Administrator, U.S. EPA Region I, J.F. Kennedy Fed. Bldg., Boston, MA 02203
Regional Administrator, U.S. EPA Region II, 26 Federal Plaza, New York, NY 10278
Regional Administrator, U.S. EPA Region III, 6th and Walnut Sts., Philadelphia, PA 19106
Regional Administrator, U.S. EPA Region IV, 345 Courtland St., NE., Atlanta, GA 30365
Regional Administrator, U.S. EPA Region V, 230 S. Dearborn St., Chicago, IL 60604
Regional Administrator, U.S. EPA Region VI, 1201 Elm Street, Dallas, TX 75270
Regional Administrator, U.S. EPA Region VII, 324 East 11th Street, Kansas City, MO 64106
Regional Administrator, U.S. EPA Region VIII, 1860 Lincoln Street, Denver, CO 80295
Regional Administrator, U.S. EPA Regi
IX, 215 Freemont Street, San Francis
CA 94105
Regional Administrator, U.S. EPA Regi
X, 1200 Sixth Avenue, Seattle, WA 98

Item 20. Facility Owner or Operator: Cert
cation of Receipt of Hazardous Materi
Covered by This Manifest Except as No
in Item 19

Print or type the name of the person
cepting the waste on behalf of the owner
operator of the facility. That person m
acknowledge acceptance of the waste
scribed on the Manifest by signing and
tering the date of receipt.

Items A-K are not required by Fede
regulations for intra- or interstate transp
tation. However, States may require gene
tors and owners or operators of treatme
storage, or disposal facilities to compl
some or all of items A-K as part of St
manifest reporting requirements. Gene
tors and owners and operators of treatme
storage, or disposal facilities are advised
contact State officials for guidance on co
pleting the shaded areas of the Manifest.



Please print or type (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2050-0039 Expires 9-30-91

UNIFORM HAZARDOUS WASTE MANIFEST
(Continuation Sheet)

21 Generator's US EPA ID No

Manifest Document No

22 Page

Information in the shaded areas is not required by Federal law

GENERATOR

23 Generator's Name

L State Manifest Document Number

M State Generator's ID

24 Transporter ____ Company Name

25 US EPA ID Number

N State Transporter's ID

O Transporter's Phone

26 Transporter ____ Company Name

27 US EPA ID Number

P State Transporter's ID

Q Transporter's Phone

28 US DOT Description *(Including Proper Shipping Name, Hazard Class, and ID Number)*	29 Containers		30 Total Quantity	31 Unit Wt/Vol	R Waste No
	No.	Type			
a					
b					
c					
d					
e					
f					
g					
h					
i					

S Additional Descriptions for Materials Listed Above

T Handling Codes for Wastes Listed Above

32 Special Handling Instructions and Additional Information

TRANSPORTER

33 Transporter ____ Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Date

Month Day Year

34 Transporter ____ Acknowledgement of Receipt of Materials

Printed/Typed Name

Signature

Date

Month Day Year

FACILITY

35 Discrepancy Indication Space

EPA Form 8700-22A **(Rev. 9-88)** Previous edition is obsolete

INSTRUCTIONS—CONTINUATION SHEET, U.S. EPA FORM 8700-22A

Read all instructions before completing this form.

This form has been designed for use on a 12-pitch (elite) typewriter; a firm point pen may also be used—press down hard.

This form must be used as a continuation sheet to U.S. EPA Form 8700-22 if:

- More than two transporters are to be used to transport the waste;
- More space is required for the U.S. DOT description and related information in Item 11 of U.S. EPA Form 8700-22.

Federal regulations require generators and transporters of hazardous waste and owners or operators of hazardous waste treatment, storage, or disposal facilities to use the uniform hazardous waste manifest (EPA Form 8700-22) and, if necessary, this continuation sheet (EPA Form 8700-22A) for both inter- and intrastate transportation.

GENERATORS

Item 21. Generator's U.S. EPA ID Number—Manifest Document Number

Enter the generator's U.S. EPA twelve digit identification number and the unique five digit number assigned to this Manifest (e.g., 00001) as it appears in item 1 on the first page of the Manifest.

Item 22. Page ——

Enter the page number of this Continuation Sheet.

Item 23. Generator's Name

Enter the generator's name as it appears in item 3 on the first page of the Manifest.

Item 24. Transporter —— Company Name

If additional transporters are used to transport the waste described on this Manifest, enter the company name of each additional transporter in the order in which they will transport the waste. Enter after the word "Transporter" the order of the transporter. For example, Transporter *3* Company Name. Each Continuation Sheet will record the names of two additional transporters.

Item 25. U.S. EPA ID Number

Enter the U.S. EPA twelve digit identification number of the transporter described in item 24.

Item 26. Transporter —— Company Name

If additional transporters are used to transport the waste described on this Manifest, enter the company name of each additional transporter in the order in which they will transport the waste. Enter after the word "Transporter" the order of the transporter. For example, Transporter 4 Company Name. Each Continuation Sheet will record the names of two additional transporters.

Item 27. U.S. EPA ID Number

Enter the U.S. EPA twelve digit identification number of the transporter described in item 26.

Item 28. U.S. DOT Description Including Proper Shipping Name, Hazardous Class and ID Number (UN/NA)

Refer to item 11.

Item 29. Containers (No. and Type)

Refer to item 12.

Item 30. Total Quantity

Refer to item 13.

Item 31. Unit (Wt./Vol.)

Refer to item 14.

Item 32. Special Handling Instructions

Generators may use this space to indicate special transportation, treatment, storage, or disposal information or Bill of Lading information. States are *not* authorized to require additional, new, or different information in this space.

* * * * *

TRANSPORTERS

Item 33. Transporter —— Acknowledgement of Receipt of Materials

Enter the same number of the Transporter as identified in item 24. Enter also the name of the person accepting the waste on behalf of the Transporter (Company Name) identified in item 24. That person must acknowledge acceptance of the waste described on the Manifest by signing and entering the date of receipt.

Item 34. Transporter —— Acknowledgement of Receipt of Materials

Enter the same number as identified in item 26. Enter also the name of the person accepting the waste on behalf of the Transporter (Company Name) identified in item 26. That person must acknowledge acceptance of the waste described on the Manifest by signing and entering the date of receipt.

* * * * *

OWNERS AND OPERATORS OF TREATMENT, STORAGE, OR DISPOSAL FACILITIES

Item 35. Discrepancy Indication Space

Refer to item 19.

Items L-R are not required by Federal regulations for intra- or interstate transportation. However, States may require generators and owners or operators of treatment, storage, or disposal facilities to complete some or all of items L-R as part of State manifest reporting requirements. Generators and owners and operators of treatment, storage, or disposal facilities are advised to contact State officials for guidance on completing the shaded areas of the manifest.

[49 FR 10501, Mar. 20, 1984, as amended at 51 FR 28685, Aug. 8, 1986; 51 FR 35192, Oct. 1, 1986; 53 FR 45091, Nov. 8, 1988]

PART 263—STANDARDS APPLICABLE TO TRANSPORTERS OF HAZARDOUS WASTE

Subpart A—General

Sec.

263.10 Scope.
263.11 EPA identification number.
263.12 Transfer facility requirements.

Subpart B—Compliance With the Manifest System and Recordkeeping

263.20 The manifest system.
263.21 Compliance with the manifest.
263.22 Recordkeeping.

Subpart C—Hazardous Waste Discharges

263.30 Immediate action.
263.31 Discharge clean up.

AUTHORITY: Secs. 2002(a), 3002, 3003, 3004 and 3005 of the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976 and as amended by the Quiet Communities Act of 1978, (42 U.S.C. 6912a, 6922, 6923, 6924, 6925).

SOURCE: 45 FR 33151, May 19, 1980, unless otherwise noted.

Subpart A—General

§ 263.10 Scope.

(a) These regulations establish standards which apply to persons transporting hazardous waste within the United States if the transportation requires a manifest under 40 CFR Part 262.

NOTE: The regulations set forth in Parts 262 and 263 establish the responsibilities of generators and transporters of hazardous waste in the handling, transportation, and management of that waste. In these regulations, EPA has expressly adopted certain regulations of the Department of Transportation (DOT) governing the transportation of hazardous materials. These regulations concern, among other things, labeling, marking, placarding, using proper containers, and reporting discharges. EPA has expressly adopted these regulations in order to satisfy its statutory obligation to promulgate regulations which are necessary to protect human health and the environment in the transportation of hazardous waste. EPA's adoption of these DOT regulations ensures consistency with the requirements of DOT and thus avoids the establishment of duplicative or conflicting requirements with respect to these matters. These EPA regulations which apply to both interstate and intrastate transportation of hazardous waste are enforceable by EPA.

DOT has revised its hazardous materials transportation regulations in order to encompass the transportation of hazardous waste and to regulate intrastate, as well as interstate, transportation of hazardous waste. Transporters of hazardous waste are cautioned that DOT's regulations are fully applicable to their activities and enforceable by DOT. These DOT regulations are codified in Title 49, Code of Federal Regulations, Subchapter C.

EPA and DOT worked together to develop standards for transporters of hazardous waste in order to avoid conflicting requirements. Except for transporters of bulk shipments of hazardous waste by water, a transporter who meets all applicable requirements of 49 CFR Parts 171 through 179 and the requirements of 40 CFR 263.11 and 263.31 will be deemed in compliance with this part. Regardless of DOT's action, EPA retains its authority to enforce these regulations.

(b) These regulations do not apply to on-site transportation of hazardous waste by generators or by owners or operators of permitted hazardous waste management facilities.

(c) A transporter of hazardous waste must also comply with 40 CFR Part 262, Standards Applicable to Generators of Hazardous Waste, if he:

(1) Transports hazardous waste into the United States from abroad; or

(2) Mixes hazardous wastes of different DOT shipping descriptions by placing them into a single container.

[45 FR 33151, May 19, 1980, as amended at 45 FR 86968, Dec. 31, 1980]

§ 263.11 EPA identification number.

(a) A transporter must not transport hazardous wastes without having received an EPA identification number from the Administrator.

(b) A transporter who has not received an EPA identification number may obtain one by applying to the Administrator using EPA Form 8700-12. Upon receiving the request, the Administrator will assign an EPA identification number to the transporter.

§ 263.12 Transfer facility requirements.

A transporter who stores manifested shipments of hazardous waste in containers meeting the requirements of § 262.30 at a transfer facility for a period of ten days or less is not subject to regulation under Parts 270, 264, 265, and 268 of this chapter with respect to the storage of those wastes.

[45 FR 86968, Dec. 31, 1980, as amended at 48 FR 14294, Apr. 1, 1983; 51 FR 40637, Nov. 7, 1986]

Subpart B—Compliance With the Manifest System and Recordkeeping

§ 263.20 The manifest system.

(a) A transporter may not accept hazardous waste from a generator unless it is accompanied by a manifest signed in accordance with the provisions of 40 CFR 262.20. In the case of exports, a transporter may not accept such waste from a primary exporter or other person (1) if he knows the shipment does not conform to the EPA Acknowledgment of Consent; and (2) unless, in addition to a manifest signed in accordance with the provisions of 40 CFR 262.20, such waste is also accompanied by an EPA Acknowledgment of Consent which, except for shipment by rail, is attached to the manifest (or shipping paper for exports by water (bulk shipment)).

(b) Before transporting the hazardous waste, the transporter must sign and date the manifest acknowledging acceptance of the hazardous waste from the generator. The transporter must return a signed copy to the generator before leaving the generator's property.

(c) The transporter must ensure that the manifest accompanies the hazardous waste. In the case of exports, the transporter must ensure that a copy of the EPA Acknowledgment of Consent also accompanies the hazardous waste.

(d) A transporter who delivers a hazardous waste to another transporter or to the designated facility must:

(1) Obtain the date of delivery and the handwritten signature of that transporter or of the owner or operator of the designated facility on the manifest; and

(2) Retain one copy of the manifest in accordance with § 263.22; and

(3) Give the remaining copies of the manifest to the accepting transporter or designated facility.

(e) The requirements of paragraphs (c), (d) and (f) of this section do not apply to water (bulk shipment) transporters if:

(1) The hazardous waste is delivered by water (bulk shipment) to the designated facility; and

(2) A shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator certification, and signatures) and, for exports, an EPA Acknowledgment of Consent accompanies the hazardous waste; and

(3) The delivering transporter obtains the date of delivery and handwritten signature of the owner or operator of the designated facility on either the manifest or the shipping paper; and

(4) The person delivering the hazardous waste to the initial water (bulk shipment) transporter obtains the date of delivery and signature of the water (bulk shipment) transporter on the manifest and forwards it to the designated facility; and

(5) A copy of the shipping paper or manifest is retained by each water (bulk shipment) transporter in accordance with § 263.22.

(f) For shipments involving rail transportation, the requirements of paragraphs (c), (d) and (e) do not apply and the following requirements do apply:

(1) When accepting hazardous waste from a non-rail transporter, the initial rail transporter must:

(i) Sign and date the manifest acknowledging acceptance of the hazardous waste;

(ii) Return a signed copy of the manifest to the non-rail transporter;

(iii) Forward at least three copies of the manifest to:

(A) The next non-rail transporter, if any; or,

(B) The designated facility, if the shipment is delivered to that facility by rail; or

(C) The last rail transporter designated to handle the waste in the United States;

(iv) Retain one copy of the manifest and rail shipping paper in accordance with § 263.22.

(2) Rail transporters must ensure that a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator certification, and signatures) and, for exports an EPA Acknowledgment of Consent accompanies the hazardous waste at all times.

NOTE: Intermediate rail transporters are not required to sign either the manifest or shipping paper.

(3) When delivering hazardous waste to the designated facility, a rail transporter must:

(i) Obtain the date of delivery and handwritten signature of the owner or operator of the designated facility on the manifest or the shipping paper (if the manifest has not been received by the facility); and

(ii) Retain a copy of the manifest or signed shipping paper in accordance with § 263.22.

(4) When delivering hazardous waste to a non-rail transporter a rail transporter must:

(i) Obtain the date of delivery and the handwritten signature of the next non-rail transporter on the manifest; and

(ii) Retain a copy of the manifest in accordance with § 263.22.

(5) Before accepting hazardous waste from a rail transporter, a non-rail transporter must sign and date the manifest and provide a copy to the rail transporter.

(g) Transporters who transport hazardous waste out of the United States must:

(1) Indicate on the manifest the date the hazardous waste left the United States; and

(2) Sign the manifest and retain one copy in accordance with § 263.22(c); and

(3) Return a signed copy of the manifest to the generator; and

(4) Give a copy of the manifest to a U.S. Customs official at the point of departure from the United States.

(h) A transporter transporting hazardous waste from a generator who generates greater than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month need not comply with the requirements of this section or those of § 263.22 provided that:

(1) The waste is being transported pursuant to a reclamation agreement as provided for in § 262.20(e);

(2) The transporter records, on a log or shipping paper, the following information for each shipment:

(i) The name, address, and U.S. EPA Identification Number of the generator of the waste;

(ii) The quantity of waste accepted;

(iii) All DOT-required shipping information;

(iv) The date the waste is accepted; and

(3) The transporter carries this record when transporting waste to the reclamation facility; and

(4) The transporter retains these records for a period of at least three years after termination or expiration of the agreement.

[45 FR 33151, May 19, 1980, as amended at 45 FR 86973, Dec. 31, 1980; 51 FR 10176, Mar. 24, 1986; 51 FR 28685, Aug. 8, 1986]

§ 263.21 Compliance with the manifest.

(a) The transporter must deliver the entire quantity of hazardous waste which he has accepted from a generator or a transporter to:

(1) The designated facility listed on the manifest; or

(2) The alternate designated facility, if the hazardous waste cannot be delivered to the designated facility because an emergency prevents delivery; or

(3) The next designated transporter; or

(4) The place outside the United States designated by the generator.

(b) If the hazardous waste cannot be delivered in accordance with paragraph (a) of this section, the transporter must contact the generator for further directions and must revise the manifest according to the generator's instructions.

§ 263.22 Recordkeeping.

(a) A transporter of hazardous waste must keep a copy of the manifest signed by the generator, himself, and the next designated transporter or the owner or operator of the designated facility for a period of three years from the date the hazardous waste was accepted by the initial transporter.

(b) For shipments delivered to the designated facility by water (bulk shipment), each water (bulk shipment) transporter must retain a copy of the shipping paper containing all the information required in § 263.20(e)(2) for a period of three years from the date the hazardous waste was accepted by the initial transporter.

(c) For shipments of hazardous waste by rail within the United States:

(i) The initial rail transporter must keep a copy of the manifest and shipping paper with all the information required in § 263.20(f)(2) for a period of three years from the date the hazardous waste was accepted by the initial transporter; and

(ii) The final rail transporter must keep a copy of the signed manifest (or the shipping paper if signed by the designated facility in lieu of the manifest) for a period of three years from the date the hazardous waste was accepted by the initial transporter.

NOTE: Intermediate rail transporters are not required to keep records pursuant to these regulations.

(d) A transporter who transports hazardous waste out of the United States must keep a copy of the manifest indicating that the hazardous waste left the United States for a period of three years from the date the hazardous waste was accepted by the initial transporter.

(e) The periods of retention referred to in this Section are extended automatically during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Administrator.

[45 FR 33151, May 19, 1980, as amended at 45 FR 86973, Dec. 31, 1980]

Subpart C—Hazardous Waste Discharges

§ 263.30 Immediate action.

(a) In the event of a discharge of hazardous waste during transportation, the transporter must take appropriate immediate action to protect human health and the environment (e.g., notify local authorities, dike the discharge area).

(b) If a discharge of hazardous waste occurs during transportation and an official (State or local government or a Federal Agency) acting within the scope of his official responsibilities determines that immediate removal of the waste is necessary to protect human health or the environment, that official may authorize the removal of the waste by transporters who do not have EPA identification numbers and without the preparation of a manifest.

(c) An air, rail, highway, or water transporter who has discharged hazardous waste must:

(1) Give notice, if required by 49 CFR 171.15, to the National Response Center (800-424-8802 or 202-426-2675) and

(2) Report in writing as required by 49 CFR 171.16 to the Director, Office of Hazardous Materials Regulations, Materials Transportation Bureau, Department of Transportation, Washington, DC 20590.

(d) A water (bulk shipment) transporter who has discharged hazardous waste must give the same notice as required by 33 CFR 153.203 for oil and hazardous substances.

§ 263.31 Discharge clean up.

A transporter must clean up any hazardous waste discharge that occurs during transportation or take such action as may be required or approved by Federal, State, or local officials that the hazardous waste discharge no longer presents a hazard to human health or the environment.

PART 264—STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES

Subpart A—General

Sec.
264.1 Purpose, scope and applicability.
264.2 [Reserved]
264.3 Relationship to interim status standards.
264.4 Imminent hazard action.

Subpart B—General Facility Standards

264.10 Applicability.
264.11 Identification number.
264.12 Required notices.
264.13 General waste analysis.
264.14 Security.
264.15 General inspection requirements.
264.16 Personnel training.
264.17 General reguirements for ignitable, reactive, or incompatible wastes.
264.18 Location standards.

Subpart C—Preparedness and Prevention

264.30 Applicability.
264.31 Design and operation of facility.
264.32 Required equipment.
264.33 Testing and maintenance of equipment.
264.34 Access to communications or alarm system.
264.35 Required aisle space.
264.36 [Reserved]
264.37 Arrangements with local authorities.

Subpart D—Contingency Plan and Emergency Procedures

264.50 Applicability.
264.51 Purpose and implementation of contingency plan.
264.52 Content of contingency plan.
264.53 Copies of contingency plan.
264.54 Amendment of contingency plan.
264.55 Emergency coordinator.
264.56 Emergency procedures.

Subpart E—Manifest System, Recordkeeping, and Reporting

264.70 Applicability.
264.71 Use of manifest system.
Sec.
264.72 Manifest discrepancies
264.73 Operating record.
264.74 Availability, retention, and disposition of records.
264.75 Biennial report.
264.76 Unmanifested waste report.
264.77 Additional reports.

Subpart F—Releases From Solid Waste Management Units

264.90 Applicability.
264.91 Required programs.
264.92 Ground-water protection standard.
264.93 Hazardous constituents.
264.94 Concentration limits.
264.95 Point of compliance.
264.96 Compliance period.
264.97 General ground-water monitoring requirements.
264.98 Detection monitoring program.
264.99 Compliance monitoring program.
264.100 Corrective action program.
264.101 Corrective action for solid waste management units.

Subpart G—Closure and Post-Closure

264.110 Applicability.
264.111 Closure performance standard.
264.112 Closure plan; amendment of plan.
264.113 Closure; time allowed for closure.
264.114 Disposal or decontamination of equipment, structures and soils.
264.115 Certification of closure.
264.116 Survey plat.
264.117 Post-closure care and use of property.
264.118 Post-closure plan; amendment of plan.
264.119 Post-closure notices.
264.120 Certification of completion of post-closure care.

Subpart H—Financial Requirements

264.140 Applicability.
264.141 Definitions of terms as used in this subpart.
264.142 Cost estimate for closure.
264.143 Financial assurance for closure.
264.144 Cost estimate for post-closure care.
264.145 Financial assurance for post-closure care.
264.146 Use of a mechanism for financial assurance of both closure and post-closure care.
264.147 Liability requirements.
264.148 Incapacity of owners or operators, guarantors, or financial institutions.
264.149 Use of State-required mechanisms.
264.150 State assumption of responsibility.
264.151 Wording of the instruments.

Sec.

Subpart I—Use and Management of Containers

264.170 Applicability.
264.171 Condition of containers.
264.172 Compatibility of waste with containers.
264.173 Management of containers.
264.174 Inspections.
264.175 Containment.
264.176 Special requirements for ignitable or reactive waste.
264.177 Special requirements for incompatible wastes.
264.178 Closure.

Subpart J—Tank Systems

264.190 Applicability.
264.191 Assessment of existing tank system's integrity.
264.192 Design and installation of new tank systems or components.
264.193 Containment and detection of releases.
264.194 General operating requirements.
264.195 Inspections.
264.196 Response to leaks or spills and disposition of leaking or unfit-for-use tank systems.
264.197 Closure and post-closure care.
264.198 Special requirements for ignitable or reactive wastes.
264.199 Special requirements for incompatible wastes.

Subpart K—Surface Impoundments

264.220 Applicability.
264.221 Design and operating requirements.
264.222—264.225 [Reserved]
264.226 Monitoring and inspection.
264.227 Emergency repairs; contingency plans.
264.228 Closure and post-closure care.
264.229 Special requirements for ignitable or reactive waste.
264.230 Special requirements for incompatible wastes.
264.231 Special requirements for hazardous wastes FO20, FO21, FO22, FO23, FO26, and FO27.

Subpart L—Waste Piles

264.250 Applicability.
264.251 Design and operating requirements.
264.252—264.253 [Reserved]
264.254 Monitoring and inspection.
264.255 [Reserved]
264.256 Special requirements for ignitable or reactive waste.
264.257 Special requirements for incompatible wastes.
264.258 Closure and post-closure care.

Sec.
264.259 Special requirements for hazardous wastes FO20, FO21, FO22, FO23, FO26, and FO27.

Subpart M—Land Treatment

264.270 Applicability.
264.271 Treatment program.
264.272 Treatment demonstration.
264.273 Design and operating requirements.
264.274—264.275 [Reserved]
264.276 Food-chain crops.
264.277 [Reserved]
264.278 Unsaturated zone monitoring.
264.279 Recordkeeping.
264.280 Closure and post-closure care.
264.281 Special requirements for ignitable or reactive waste.
264.282 Special requirements for incompatible wastes.
264.283 Special requirements for hazardous wastes FO20, FO21, FO22, FO23, FO26, and FO27.

Subpart N—Landfills

264.300 Applicability.
264.301 Design and operating requirements.
264.302 [Reserved]
264.303 Monitoring and inspection.
264.304—264.308 [Reserved]
264.309 Surveying and recordkeeping.
264.310 Closure and post-closure care.
264.311 [Reserved]
264.312 Special requirements for ignitable or reactive waste.
264.313 Special requirements for incompatible wastes.
264.314 Special requirements for bulk and containerized liquids.
264.315 Special requirements for containers.
264.316 Disposal of small containers of hazardous waste in overpacked drums (lab packs).
264.317 Special requirements for hazardous wastes FO20, FO21, FO22, FO23, FO26, and FO27.

Subpart O—Incinerators

264.340 Applicability.
264.341 Waste analysis.
264.342 Principal organic hazardous constituents (POHCs).
264.343 Performance standards.
264.344 Hazardous waste incinerator permits.
264.345 Operating requirements.
264.346 [Reserved]
264.347 Monitoring and inspections.
264.348—264.350 [Reserved]
264.351 Closure.

ec.

Subparts P-W [Reserved]

Subpart X—Miscellaneous Units

64.600 Applicability.
64.601 Environmental performance standards.
64.602 Monitoring, analysis, inspection, response, reporting, and corrective action.
64.603 Post-closure care.

Subparts Y-Z [Reserved]

Subpart AA—Air Emission Standards for Process Vents

64.1030 Applicability.
64.1031 Definitions.
64.1032 Standards: Process vents.
64.1033 Standards: Closed-vent systems and control devices.
64.1034 Test methods and procedures.
64.1035 Recordkeeping requirements.
4.1036 Reporting requirements.
4.1037—264.1049 [Reserved]

Subpart BB—Air Emission Standards for Equipment Leaks

4.1050 Applicability.
4.1051 Definitions.
4.1052 Standards: Pumps in light liquid service.
4.1053 Standards: Compressors.
4.1054 Standards: Pressure relief devices in gas/vapor service.
4.1055 Standards: Sampling connecting systems.
4.1056 Standards: Open-ended valves or lines.
4.1057 Standards: Valves in gas/vapor service or in light liquid service.
4.1058 Standards: Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors.
4.1059 Standards: Delay of repair.
4.1060 Standards: Closed-vent systems and control devices.
4.1061 Alternative standards for valves in gas/vapor service or in light liquid service: percentage of valves allowed to leak.
4.1062 Alternative standards for valves in gas/vapor service or in light liquid service: skip period leak detection and repair.
4.1063 Test methods and procedures.
4.1064 Recordkeeping requirements.
4.1065 Reporting requirements.
4.1066—264.1079 [Reserved]
PENDIX I—RECORDKEEPING INSTRUCTIONS
PENDICES II—III [RESERVED]

Sec.
APPENDIX IV—COCHRAN'S APPROXIMATION TO THE BEHRENS-FISHER STUDENTS' T-TEST
APPENDIX V—EXAMPLES OF POTENTIALLY INCOMPATIBLE WASTE
APPENDIX VI—POLITICAL JURISDICTIONS IN WHICH COMPLIANCE WITH § 264.18(a) MUST BE DEMONSTRATED
APPENDICES VII—VIII [RESERVED]
APPENDIX IX—GROUND-WATER MONITORING LIST

AUTHORITY: 42 U.S.C. 6905, 6912(a), 6924, and 6925.

SOURCE: 45 FR 33221, May 19, 1980, unless otherwise noted.

Subpart A—General

§ 264.1 Purpose, scope and applicability.

(a) The purpose of this part is to establish minimum national standards which define the acceptable management of hazardous waste.

(b) The standards in this part apply to owners and operators of all facilities which treat, store, or dispose of hazardous waste, except as specifically provided otherwise in this part or Part 261 of this chapter.

(c) The requirements of this part apply to a person disposing of hazardous waste by means of ocean disposal subject to a permit issued under the Marine Protection, Research, and Sanctuaries Act only to the extent they are included in a RCRA permit by rule granted to such a person under Part 270 of this chapter.

[*Comment:* These Part 264 regulations do apply to the treatment or storage of hazardous waste before it is loaded onto an ocean vessel for incineration or disposal at sea.]

(d) The requirements of this part apply to a person disposing of hazardous waste by means of underground injection subject to a permit issued under an Underground Injection Control (UIC) program approved or promulgated under the Safe Drinking Water Act only to the extent they are required by § 144.14 of this chapter.

[*Comment:* These Part 264 regulations do apply to the above-ground treatment or storage of hazardous waste before it is injected underground.]

(e) The requirements of this part apply to the owner or operator of a POTW which treats, stores, or disposes of hazardous waste only to the extent they are included in a RCRA permit by rule granted to such a person under Part 270 of this chapter.

(f) The requirements of this part do not apply to a person who treats, stores, or disposes of hazardous waste in a State with a RCRA hazardous waste program authorized under Subpart A of Part 271 of this chapter, or in a State authorized under Subpart B of Part 271 of this chapter for the component or components of Phase II interim authorization which correspond to the person's treatment, storage or disposal processes; except that this part will apply:

(1) As stated in paragraph (d) of this section, if the authorized State RCRA program does not cover disposal of hazardous waste by means of underground injection; and

(2) To a person who treats, stores or disposes of hazardous waste in a State authorized under Subpart A of Part 271 of this chapter, at a facility which was not covered by standards under this part when the State obtained authorization, and for which EPA promulgates standards under this part after the State is authorized. This paragraph will only apply until the State is authorized to permit such facilities under Subpart A of Part 271 of this chapter.

(3) To a person who treats, stores, or disposes of hazardous waste in a State which is authorized under Subpart A or B of Part 271 of this chapter if the State has not been authorized to carry out the requirements and prohibitions applicable to the treatment, storage, or disposal of hazardous waste at his facility which are imposed pursuant to the Hazardous and Solid Waste Amendments of 1984. The requirements and prohibitions that are applicable until a State receives authorization to carry them out include all Federal program requirements identified in § 271.1(j).

(g) The requirements of this part do not apply to:

(1) The owner or operator of a facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the only hazardous waste the facility treats, stores, or disposes of is excluded from regulation under this part by § 261.5 of this chapter;

(2) The owner or operator of a facility managing recyclable materials described in § 261.6(a) (2) and (3) of this chapter (except to the extent that requirements of this part are referred to in Subparts C, D, F, or G of Part 26 of this chapter).

(3) A generator accumulating waste on-site in compliance with § 262.34 of this chapter;

(4) A farmer disposing of waste pesticides from his own use in compliance with § 262.70 of this chapter; or

(5) The owner or operator of a totally enclosed treatment facility, as defined in § 260.10.

(6) The owner or operator of an elementary neutralization unit or a wastewater treatment unit as defined in § 260.10 of this chapter.

(7) [Reserved]

(8)(i) Except as provided in paragraph (g)(8)(ii) of this section, a person engaged in treatment or containment activities during immediate response to any of the following situations:

(A) A discharge of a hazardous waste;

(B) An imminent and substantial threat of a discharge of hazardous waste;

(C) A discharge of a material which, when discharged, becomes a hazardous waste.

(ii) An owner or operator of a facility otherwise regulated by this part must comply with all applicable requirements of Subparts C and D.

(iii) Any person who is covered by paragraph (g)(8)(i) of this section and who continues or initiates hazardous waste treatment or containment activities after the immediate response is over is subject to all applicable requirements of this part and Parts 12 through 124 of this chapter for those activities.

(9) A transporter storing manifested shipments of hazardous waste in containers meeting the requirements of 4 CFR 262.30 at a transfer facility for a period of ten days or less.

(10) The addition of absorbent material to waste in a container (as defined in § 260.10 of this chapter) or the addition of waste to absorbent material

a container, provided that these actions occur at the time waste is first placed in the container; and §§ 264.17(b), 264.171, and 264.172 are complied with.

(h) The requirements of this part apply to owners or operators of all facilities which treat, store, or dispose of hazardous wastes referred to in Part 268.

[45 FR 33221, May 19, 1980, as amended at 45 FR 76075, Nov. 17, 1980; 45 FR 86968, Dec. 31, 1980; 46 FR 27480, May 20, 1981; 47 FR 8306, Feb. 25, 1982; 47 FR 32384, July 26, 1982; 48 FR 2511, Jan. 19, 1983; 48 FR 14294, Apr. 1, 1983; 50 FR 665, Jan. 4, 1985; 50 FR 28746, July 15, 1985; 52 FR 21016, June 4, 1987; 53 FR 27165, July 19, 1988]

§ 264.2 [Reserved]

§ 264.3 Relationship to interim status standards.

A facility owner or operator who has fully complied with the requirements for interim status—as defined in section 3005(e) of RCRA and regulations under § 270.70 of this chapter—must comply with the regulations specified in Part 265 of this chapter in lieu of the regulations in this part, until final administrative disposition of his permit application is made.

[*Comment:* As stated in section 3005(a) of RCRA, after the effective date of regulations under that section, i.e., Parts 270 and 124 of this chapter, the treatment, storage, or disposal of hazardous waste is prohibited except in accordance with a permit. Section 3005(e) of RCRA provides for the continued operation of an existing facility which meets certain conditions until final administrative disposition of the owner's or operator's permit application is made.]

[45 FR 33221, May 19, 1980, as amended at 48 FR 14294, Apr. 1, 1983]

§ 264.4 Imminent hazard action.

Notwithstanding any other provisions of these regulations, enforcement actions may be brought purusant to section 7003 of RCRA.

Subpart B—General Facility Standards

§ 264.10 Applicability.

(a) The regulations in this subpart apply to owners and operators of all hazardous waste facilities, except as provided in § 264.1 and in paragraph (b) of this section.

(b) Section 264.18(b) applies only to facilities subject to regulation under Subparts I through O and Subpart X of this part.

[46 FR 2848, Jan. 12, 1981, as amended at 52 FR 46963, Dec. 10, 1987]

§ 264.11 Identification number.

Every facility owner or operator must apply to EPA for an EPA identification number in accordance with the EPA notification procedures (45 FR 12746).

(Approved by the Office of Management and Budget under control number 2050-0028)

[45 FR 33221, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985]

§ 264.12 Required notices.

(a) The owner or operator of a facility that has arranged to receive hazardous waste from a foreign source must notify the Regional Administrator in writing at least four weeks in advance of the date the waste is expected to arrive at the facility. Notice of subsequent shipments of the same waste from the same foreign source is not required.

(b) The owner or operator of a facility that receives hazardous waste from an off-site source (except where the owner or operator is also the generator) must inform the generator in writing that he has the appropriate permit(s) for, and will accept, the waste the generator is shipping. The owner or operator must keep a copy of this written notice as part of the operating record.

(c) Before transferring ownership or operation of a facility during its operating life, or of a disposal facility during the post-closure care period, the owner or operator must notify the new owner or operator in writing of the requirements of this part and Part 270 of this chapter.

[*Comment:* An owner's or operator's failure to notify the new owner or operator of the requirements of this part in no way relieves the new owner or operator of his obligation to comply with all applicable requirements.]

(Approved by the Office of Management and Budget under control number 2050-0012)

[45 FR 33221, May 19, 1980, as amended at 48 FR 14294, Apr. 1, 1983; 50 FR 4514, Jan. 31, 1985]

§ 264.13 General waste analysis.

(a)(1) Before an owner or operator treats, stores, or disposes of any hazardous wastes, or non-hazardous wastes if applicable under § 264.113(d), he must obtain a detailed chemical and physical analysis of a representative sample of the wastes.

(2) The analysis may include data developed under Part 261 of this chapter, and existing published or documented data on the hazardous waste or on hazardous waste generated from similar processes.

[*Comment:* For example, the facility's records of analyses performed on the waste before the effective date of these regulations, or studies conducted on hazardous waste generated from processes similar to that which generated the waste to be managed at the facility, may be included in the data base required to comply with paragraph (a)(1) of this section. The owner or operator of an off-site facility may arrange for the generator of the hazardous waste to supply part of the information required by paragraph (a)(1) of this section, except as othewise specified in 40 CFR 268.7 (b) and (c). If the generator does not supply the information, and the owner or operator chooses to accept a hazardous waste, the owner or operator is responsible for obtaining the information required to comply with this section.]

(3) The analysis must be repeated as necessary to ensure that it is accurate and up to date. At a minimum, the analysis must be repeated:

(i) When the owner or operator is notified, or has reason to believe, that the process or operation generating the hazardous wastes, or non-hazardous wastes if applicable under § 264.113(d), has changed; and

(ii) For off-site facilities, when the results of the inspection required in paragraph (a)(4) of this section indicate that the hazardous waste received at the facility does not match the waste designated on the accompanying manifest or shipping paper.

(4) The owner or operator of an off-site facility must inspect and, if necessary, analyze each hazardous waste movement received at the facility determine whether it matches identity of the waste specified on accompanying manifest or shipp paper.

(b) The owner or operator must velop and follow a written waste a ysis plan which describes the pr dures which he will carry out comply with paragraph (a) of this tion. He must keep this plan at the cility. At a minimum, the plan m specify:

(1) The parameters for which hazardous waste, or non-hazard waste if applicable under § 264.11 will be analyzed and the rationale the selection of these parameters how analysis for these parameters provide sufficient information on waste's properties to comply paragraph (a) of this section);

(2) The test methods which will used to test for these parameters;

(3) The sampling method which be used to obtain a representa sample of the waste to be analyze representative sample may be tained using either:

(i) One of the sampling methods scribed in Appendix I of Part 26 this chapter; or

(ii) An equivalent sampling meth

[*Comment:* See § 260.21 of this chapter related discussion.]

(4) The frequency with which initial analysis of the waste will be viewed or repeated to ensure that analysis is accurate and up to d and

(5) For off-site facilities, the w analyses that hazardous waste gen tors have agreed to supply.

(6) Where applicable, the meth that will be used to meet the addit al waste analysis requirements for cific waste management methods specified in §§ 264.17, 264.314, 264. 264.1034(d), 264.1063(d), and 268. this chapter.

(7) For surface impoundments empted from land disposal restricti under § 268.4(a), the procedures schedules for:

(i) The sampling of impoundm contents;

(ii) The analysis of test data; and,

(iii) The annual removal of residues which are not delisted under § 260.22 of this chapter or which exhibit a characteristic of hazardous waste and either:

(A) Do not meet applicable treatment standards of Part 268, Subpart D; or

(B) Where no treatment standards have been established;

(*1*) Such residues are prohibited from land disposal under § 268.32 or RCRA section 3004(d); or

(*2*) Such residues are prohibited from land disposal under § 268.33(f).

(c) For off-site facilities, the waste analysis plan required in paragraph (b) of this section must also specify the procedures which will be used to in-spect and, if necessary, analyze each movement of hazardous waste received at the facility to ensure that it matches the identity of the waste designated on the accompanying manifest or shipping paper. At a minimum, the plan must describe:

(1) The procedures which will be used to determine the identity of each movement of waste managed at the facility; and

(2) The sampling method which will be used to obtain a representative sample of the waste to be identified, if the identification method includes sampling.

[*Comment:* Part 270 of this chapter requires that the waste analysis plan be submitted with Part B of the permit application.]

(Approved by the Office of Management and Budget under control number 2050-0012)

[45 FR 33221, May 19, 1980, as amended at 46 FR 2848, Jan. 12, 1981; 50 FR 4514, Jan. 31, 1985; 51 FR 40637, Nov. 7, 1986; 53 FR 31211, Aug. 17, 1988; 54 FR 33394, Aug. 14, 1989; 55 FR 22685, June 1, 1990; 55 FR 25494, June 21, 1990]

EFFECTIVE DATE NOTE: At 55 FR 25494, June 21, 1990, in § 264.13, paragraph (b)(6) was revised, effective December 21, 1990. For the convenience of the user the superseded text appears as follows:

§ 264.13 General waste analysis.

* * * * *

(b) * * *

(6) Where applicable, the methods which will be used to meet the additional waste analysis requirements for specific waste management methods as specified in §§ 264.17, 264.314, 264.341 and 268.7 of this chapter.

* * * * *

§ 264.14 Security.

(a) The owner or operator must prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the active portion of his facility, *unless* he can demonstrate to the Regional Administrator that:

(1) Physical contact with the waste, structures, or equipment within the active portion of the facility will not injure unknowing or unauthorized persons or livestock which may enter the active portion of a facility; and

(2) Disturbance of the waste or equipment, by the unknowing or unauthorized entry of persons or livestock onto the active portion of a facility, will not cause a violation of the requirements of this part.

[*Comment:* Part 270 of this chapter requires that an owner or operator who wishes to make the demonstration referred to above must do so with Part B of the permit application.]

(b) Unless the owner or operator has made a successful demonstration under paragraphs (a)(1) and (2) of this section, a facility must have:

(1) A 24-hour surveillance system (e.g., television monitoring or surveillance by guards or facility personnel) which continuously monitors and controls entry onto the active portion of the facility; or

(2)(i) An artificial or natural barrier (e.g., a fence in good repair or a fence combined with a cliff), which completely surrounds the active portion of the facility; and

(ii) A means to control entry, at all times, through the gates or other entrances to the active portion of the facility (e.g., an attendant, television monitors, locked entrance, or controlled roadway access to the facility).

[*Comment:* The requirements of paragraph (b) of this section are satisfied if the facility or plant within which the active portion is located itself has a surveillance system, or a barrier and a means to control entry, which complies with the requirements of paragraph (b)(1) or (2) of this section.]

(c) Unless the owner or operator has made a successful demonstration under paragraphs (a)(1) and (2) of this section, a sign with the legend, "Danger—Unauthorized Personnel Keep Out", must be posted at each entrance to the active portion of a facility, and at other locations, in sufficient numbers to be seen from any approach to this active portion. The legend must be written in English and in any other language predominant in the area surrounding the facility (e.g., facilities in counties bordering the Canadian province of Quebec must post signs in French; facilities in counties bordering Mexico must post signs in Spanish), and must be legible from a distance of at least 25 feet. Existing signs with a legend other than "Danger—Unauthorized Personnel Keep Out" may be used if the legend on the sign indicates that only authorized personnel are allowed to enter the active portion, and that entry onto the active portion can be dangerous.

[*Comment:* See § 264.117(b) for discussion of security requirements at disposal facilities during the post-closure care period.]

(Approved by the Office of Management and Budget under control number 2050-0012)

[45 FR 33221, May 19, 1980, as amended at 46 FR 2848, Jan. 12, 1981; 48 FR 14294, Apr. 1, 1983; 50 FR 4514, Jan. 31, 1985]

§ 264.15 General inspection requirements.

(a) The owner or operator must inspect his facility for malfunctions and deterioration, operator errors, and discharges which may be causing—or may lead to—(1) release of hazardous waste constituents to the environment or (2) a threat to human health. The owner or operator must conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

(b)(1) The owner or operator must develop and follow a written schedule for inspecting monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment (such as dikes and sump pumps) that are important to preventing, detecting, or respondi to environmental or human hea hazards.

(2) He must keep this schedule the facility.

(3) The schedule must identify types of problems (e.g., malfuncti or deterioration) which are to looked for during the inspection (e inoperative sump pump, leaking ting, eroding dike, etc.).

(4) The frequency of inspection vary for the items on the sched However, it should be based on rate of possible deterioration of equipment and the probability of environmental or human health dent if the deterioration or malfu tion of any operator error goes un tected between inspections. Areas ject to spills, such as loading and loading areas, must be inspected da when in use. At a minimum, the spection schedule must include terms and frequencies called for §§ 264.174, 264.194, 264.226, 264. 264.254, 264.303, 264.347, 264. 264.1033, 264.1052, 264.1053, 264.1058, where applicable.

[*Comment:* Part 270 of this chapter requ the inspection schedule to be submi with Part B of the permit application. will evaluate the schedule along with rest of the application to ensure that it quately protects human health and the vironment. As part of this review, EPA modify or amend the schedule as may necessary.]

(c) The owner or operator m remedy any deterioration or malfu tion of equipment or structures wh the inspection reveals on a sched which ensures that the problem d not lead to an environmental human health hazard. Where a haz is imminent or has already occurr remedial action must be taken imme ately.

(d) The owner or operator m record inspections in an inspection or summary. He must keep th records for at least three years fr the date of inspection. At a minimu these records must include the d and time of the inspection, the na of the inspector, a notation of the servations made, and the date nature of any repairs or other reme al actions.

(Approved by the Office of Management and Budget under control number 2050-0012)

[45 FR 33221, May 19, 1980, as amended at 48 FR 14294, Apr. 1, 1983; 50 FR 4514, Jan. 31, 1985; 51 FR 25472, July 14, 1986; 52 FR 46963, Dec. 10, 1987; 55 FR 25494 June 21, 1990]

EFFECTIVE DATE NOTE: At 55 FR 25494, June 21, 1990, in § 264.15, the last sentence of paragraph (b)(4) was revised, effective December 21, 1990. For the convenience of the user the superseded text appears as follows:

§ 264.15 General inspection requirements.

* * * * *

(b)* * *

(4)* * * At a minimum, the inspection schedule must include the terms and frequencies called for in §§ 264.174, 264.194, 264.226, 264.253, 264.254, 264.303, 264.347, and 264.602, where applicable.

* * * * *

§ 264.16 Personnel training.

(a)(1) Facility personnel must successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with the requirements of this part. The owner or operator must ensure that this program includes all the elements described in the document required under paragraph (d)(3) of this section.

[*Comment:* Part 270 of this chapter requires that owners and operators submit with Part B of the RCRA permit application, an outline of the training program used (or to be used) at the facility and a brief description of how the training program is designed to meet actual job tasks.]

(2) This program must be directed by a person trained in hazardous waste management procedures, and must include instruction which teaches facility personnel hazardous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed.

(3) At a minimum, the training program must be designed to ensure that facility personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including, where applicable:

(i) Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment;

(ii) Key parameters for automatic waste feed cut-off systems;

(iii) Communications or alarm systems;

(iv) Response to fires or explosions;

(v) Response to ground-water contamination incidents; and

(vi) Shutdown of operations.

(b) Facility personnel must successfully complete the program required in paragraph (a) of this section within six months after the effective date of these regulations or six months after the date of their employment or assignment to a facility, or to a new position at a facility, whichever is later. Employees hired after the effective date of these regulations must not work in unsupervised positions until they have completed the training requirements of paragraph (a) of this section.

(c) Facility personnel must take part in an annual review of the initial training required in paragraph (a) of this section.

(d) The owner or operator must maintain the following documents and records at the facility:

(1) The job title for each position at the facility related to hazardous waste management, and the name of the employee filling each job;

(2) A written job description for each position listed under paragraph (d)(1) of this section. This description may be consistent in its degree of specificity with descriptions for other similar positions in the same company location or bargaining unit, but must include the requisite skill, education, or other qualifications, and duties of employees assigned to each position;

(3) A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position listed under paragraph (d)(1) of this section;

(4) Records that document that the training or job experience required under paragraphs (a), (b), and (c) of this section has been given to, and completed by, facility personnel.

(e) Training records on current personnel must be kept until closure of the facility; training records on former employees must be kept for at least three years from the date the employee last worked at the facility. Personnel training records may accompany personnel transferred within the same company.

(Approved by the Office of Management and Budget under control number 2050-0012)

[45 FR 33221, May 19, 1980, as amended at 46 FR 2848, Jan. 12, 1981; 48 FR 14294, Apr. 1, 1983; 50 FR 4514, Jan. 31, 1985]

§ 264.17 General requirements for ignitable, reactive, or incompatible wastes.

(a) The owner or operator must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste must be separated and protected from sources of ignition or reaction including but not limited to: open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions), and radiant heat. While ignitable or reactive waste is being handled, the owner or operator must confine smoking and open flame to specially designated locations. "No Smoking" signs must be conspicuously placed wherever there is a hazard from ignitable or reactive waste.

(b) Where specifically required by other sections of this part, the owner or operator of a facility that treats, stores or disposes ignitable or reactive waste, or mixes incompatible waste or incompatible wastes and other materials, must take precautions to prevent reactons which:

(1) Generate extreme heat or pressure, fire or explosions, or violent reactions;

(2) Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment;

(3) Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;

(4) Damage the structural integrity of the device or facility;

(5) Through other like means threaten human health or the environment.

(c) When required to comply with paragraph (a) or (b) of this section, the owner or operator must document that compliance. This documentation may be based on references to published scientific or engineering literature, data from trial tests (e.g., bench scale or pilot scale tests), waste analyses (as specified in § 264.13), or the results of the treatment of similar wastes by similar treatment processes and under similar operating conditions.

(Approved by the Office of Management and Budget under control number 2050-0012)

[46 FR 2848, Jan. 12, 1981, as amended at 50 FR 4514, Jan. 31, 1985]

§ 264.18 Location standards.

(a) *Seismic considerations.* (1) Portions of new facilities where treatment, storage, or disposal of hazardous waste will be conducted must not be located within 61 meters (200 feet) of a fault which has had displacement in Holocene time.

(2) As used in paragraph (a)(1) of this section:

(i) "Fault" means a fracture along which rocks on one side have been displaced with respect to those on the other side.

(ii) "Displacement" means the relative movement of any two sides of a fault measured in any direction.

(iii) "Holocene" means the most recent epoch of the Quarternary period, extending from the end of the Pleistocene to the present.

[*Comment:* Procedures for demonstrating compliance with this standard in Part B of the permit application are specified in § 270.14(b)(11). Facilities which are located in political jurisdictions other than those listed in Appendix VI of this part, are assumed to be in compliance with this requirement.]

(b) *Floodplains.* (1) A facility located in a 100-year floodplain must be designed, constructed, operated, and maintained to prevent washout of any hazardous waste by a 100-year flood *unless* the owner or operator can demnstrate to the Regional Administra-or's satisfaction that:

(i) Procedures are in effect which vill cause the waste to be removed afely, before flood waters can reach he facility, to a location where the vastes will not be vulnerable to flood vaters; or

(ii) For existing surface impound-nents, waste piles, land treatment inits, landfills, and miscellaneous inits, no adverse effects on human nealth or the environment will result f washout occurs, considering:

(A) The volume and physical and hemical characteristics of the waste n the facility;

(B) The concentration of hazardous onstituents that would potentially ffect surface waters as a result of vashout;

(C) The impact of such concentra-ions on the current or potential uses of and water quality standards estab-ished for the affected surface waters; and

(D) The impact of hazardous constituents on the sediments of affected surface waters or the soils of the 100-year floodplain that could result from washout.

[*Comment:* The location where wastes are noved must be a facility which is either per-nitted by EPA under Part 270 of this chap-er, authorized to manage hazardous waste by a State with a hazardous waste manage-nent program authorized under Part 271 of this chapter, or in interim status under Parts 270 and 265 of this chapter.]

(2) As used in paragraph (b)(1) of this section:

(i) "100-year floodplain" means any land area which is subject to a one percent or greater chance of flooding in any given year from any source.

(ii) "Washout" means the movement of hazardous waste from the active portion of the facility as a result of flooding.

(iii) "100-year flood" means a flood that has a one percent chance of being equalled or exceeded in any given year.

[*Comment:* (1) Requirements pertaining to other Federal laws which affect the location and permitting of facilities are found in § 270.3 of this chapter. For details relative to these laws, see EPA's manual for SEA (special environmental area) requirements for hazardous waste facility permits. Through EPA is responsible for complying with these requirements, applicants are advised to consider them in planning the location of a facility to help prevent subsequent project delays.]

(c) *Salt dome formations, salt bed formations, underground mines and caves.* The placement of any noncontainerized or bulk liquid hazardous waste in any salt dome formation, salt bed formation, underground mine or cave is prohibited, except for the Department of Energy Waste Isolation Pilot Project in New Mexico.

(Approved by the Office of Management and Budget under control numbers 2050-0010 and 2050-0012)

[46 FR 2848, Jan. 12, 1981, as amended at 47 FR 32350, July 26, 1982; 48 FR 14294, Apr. 1, 1983; 48 FR 30115, June 30, 1983; 50 FR 4514, Jan. 31, 1985; 50 FR 28746, July 15, 1985; 52 FR 46963, Dec. 10, 1987]

Subpart C—Preparedness and Prevention

§ 264.30 Applicability.

The regulations in this subpart apply to owners and operators of all hazardous waste facilities, except as § 264.1 provides otherwise.

§ 264.31 Design and operation of facility.

Facilities must be designed, constructed, maintained, and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

§ 264.32 Required equipment.

All facilities must be equipped with the following, *unless* it can be demonstrated to the Regional Administrator that none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below:

(a) An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel;

(b) A device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or State or local emergency response teams;

(c) Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and

(d) Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.

[*Comment:* Part 270 of this chapter requires that an owner or operator who wishes to make the demonstration referred to above must do so with Part B of the permit application.]

[45 FR 33221, May 19, 1980, as amended at 48 FR 14294, Apr. 1, 1983]

§ 264.33 Testing and maintenance of equipment.

All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.

§ 264.34 Access to communications or alarm system.

(a) Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, *unless* the Regional Administrator has ruled that such a device is not required under § 264.32.

(b) If there is ever just one employee on the premises while the facility is operating, he must have immediate access to a device, such as a telephone (immediately available at the scene of operation) or a hand-held two-way radio, capable of summoning external emergency assistance, *unless* the Regional Administrator has ruled that such a device is not required under § 264.32.

§ 264.35 Required aisle space.

The owner or operator must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, *unless* it can be demonstrated to the Regional Administrator that aisle space is not needed for any of these purposes.

[*Comment:* Part 270 of this chapter requires that an owner or operator who wishes to make the demonstration referred to above must do so with Part B of the permit application.]

[45 FR 33221, May 19, 1980, as amended at 48 FR 14294, Apr. 1, 1983]

§ 264.36 [Reserved]

§ 264.37 Arrangements with local authorities.

(a) The owner or operator must attempt to make the following arrangements, as appropriate for the type of waste handled at his facility and the potential need for the services of these organizations:

(1) Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to and roads inside the facility, and possible evacuation routes;

(2) Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority;

(3) Agreements with State emergency response teams, emergency response contractors, and equipment suppliers; and

(4) Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

(b) Where State or local authorities decline to enter into such arrange-nts, the owner or operator must ument the refusal in the operating ord.

ubpart D—Contingency Plan and Emergency Procedures

4.50 Applicability.

he regulations in this subpart ly to owners and operators of all ardous waste facilities, except as 4.1 provides otherwise.

4.51 Purpose and implementation of contingency plan.

a) Each owner or operator must e a contingency plan for his facili- The contingency plan must be de- ned to minimize hazards to human lth or the environment from fires, losions, or any unplanned sudden non-sudden release of hazardous ste or hazardous waste constituents air, soil, or surface water.

b) The provisions of the plan must carried out immediately whenever re is a fire, explosion, or release of ardous waste or hazardous waste stituents which could threaten man health or the environment.

proved by the Office of Management Budget under control number 2050- 1)

FR 33221, May 19, 1980, as amended at FR 4514, Jan. 31, 1985]

4.52 Content of contingency plan.

a) The contingency plan must de- ibe the actions facility personnel st take to comply with §§ 264.51 d 264.56 in response to fires, explo- ns, or any unplanned sudden or n-sudden release of hazardous waste hazardous waste constituents to air, l, or surface water at the facility.

b) If the owner or operator has al- dy prepared a Spill Prevention, ntrol, and Countermeasures (SPCC) n in accordance with Part 112 of s chapter, or Part 1510 of Chapter or some other emergency or contin- ncy plan, he need only amend that n to incorporate hazardous waste nagement provisions that are suffi- nt to comply with the requirements this part.

c) The plan must describe arrange- nts agreed to by local police departments, fire departments, hospitals, contractors, and State and local emergency response teams to coordinate emergency services, pursuant to § 264.37.

(d) The plan must list names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator (see § 264.55), and this list must be kept up to date. Where more than one person is listed, one must be named as primary emergency coordinator and others must be listed in the order in which they will assume responsibility as alternates. *For new facilities*, this information must be supplied to the Regional Administrator at the time of certification, rather than at the time of permit application.

(e) The plan must include a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment), where this equipment is required. This list must be kept up to date. In addition, the plan must include the location and a physical description of each item on the list, and a brief outline of its capabilities.

(f) The plan must include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes (in cases where the primary routes could be blocked by releases of hazardous waste or fires).

(Approved by the Office of Management and Budget under control number 2050-0011)

[45 FR 33221, May 19, 1980, as amended at 46 FR 27480, May 20, 1981; 50 FR 4514, Jan. 31, 1985]

§ 264.53 Copies of contingency plan.

A copy of the contingency plan and all revisions to the plan must be:

(a) Maintained at the facility; and

(b) Submitted to all local police departments, fire departments, hospitals, and State and local emergency response teams that may be called upon to provide emergency services.

[*Comment:* The contingency plan must be submitted to the Regional Administrator with Part B of the permit application under Part 270, of this chapter and, after modification or approval, will become a condition of any permit issued.]

(Approved by the Office of Management and Budget under control number 2050-0011)

[45 FR 33221, May 19, 1980, as amended at 48 FR 30115, June 30, 1983; 50 FR 4514, Jan. 31, 1985]

§ 264.54 Amendment of contingency plan.

The contingency plan must be reviewed, and immediately amended, if necessary, whenever:

(a) The facility permit is revised;

(b) The plan fails in an emergency;

(c) The facility changes—in its design, construction, operation, maintenance, or other circumstances—in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency;

(d) The list of emergency coordinators changes; or

(e) The list of emergency equipment changes.

(Approved by the Office of Management and Budget under control number 2050-0011)

[45 FR 33221, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985; 53 FR 37935, Sept. 28, 1988]

§ 264.55 Emergency coordinator.

At all times, there must be at least one employee either on the facility premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility, and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the contingency plan.

[*Comment:* The emergency coordinator's responsibilities are more fully spelled out in § 264.56. Applicable responsibilities for the emergency coordinator vary, depending on factors such as type and variety of waste(s) handled by the facility, and type and complexity of the facility.]

§ 264.56 Emergency procedures.

(a) Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his designee when the emergency coordinator is on call) must immediately:

(1) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and

(2) Notify appropriate State or local agencies with designated response roles if their help is needed.

(b) Whenever there is a release, fire, or explosion, the emergency coordinator must immediately identify the character, exact source, amount, and areal extent of any released materials. He may do this by observation or review of facility records or manifests, and, if necessary, by chemical analysis.

(c) Concurrently, the emergency coordinator must assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment must consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-off from water or chemical agents used to control fire and heat-induced explosions).

(d) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility, he must report his findings as follows:

(1) If his assessment indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated; and

(2) He must immediately notify either the government official designated as the on-scene coordinator for that geographical area, (in the applicable regional contingency plan under Part 1510 of this title) or the National

esponse Center (using their 24-hour
oll free number 800/424-8802). The
eport must include:

(i) Name and telephone number of
eporter;

(ii) Name and address of facility;

(iii) Time and type of incident (e.g.,
elease, fire);

(iv) Name and quantity of
aterial(s) involved, to the extent
nown;

(v) The extent of injuries, if any;
nd

(vi) The possible hazards to human
ealth, or the environment, outside
he facility.

(e) During an emergency, the emer-
ency coordinator must take all rea-
onable measures necessary to ensure
hat fires, explosions, and releases do
ot occur, recur, or spread to other
azardous waste at the facility. These
easures must include, where applica-
le, stopping processes and operations,
ollecting and containing release
aste, and removing or isolating con-
iners.

(f) If the facility stops operations in
esponse to a fire, explosion, or re-
ase, the emergency coordinator must
onitor for leaks, pressure buildup,
as generation, or ruptures in valves,
ipes, or other equipment, wherever
his is appropriate.

(g) Immediately after an emergency,
he emergency coordinator must pro-
ide for treating, storing, or disposing
f recovered waste, contaminated soil
r surface water, or any other material
hat results from a release, fire, or ex-
losion at the facility.

Comment: Unless the owner or operator
an demonstrate, in accordance with
261.3(c) or (d) of this chapter, that the re-
overed material is not a hazardous waste,
he owner or operator becomes a generator
f hazardous waste and must manage it in
ccordance with all applicable requirements
f Parts 262, 263, and 264 of this chapter.]

(h) The emergency coordinator must
nsure that, in the affected area(s) of
he facility:

(1) No waste that may be incompati-
le with the released material is treat-
d, stored, or disposed of until cleanup
rocedures are completed; and

(2) All emergency equipment listed
n the contingency plan is cleaned and fit for its intended use before operations are resumed.

(i) The owner or operator must notify the Regional Administrator, and appropriate State and local authorities, that the facility is in compliance with paragraph (h) of this section before operations are resumed in the affected area(s) of the facility.

(j) The owner or operator must note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, he must submit a written report on the incident to the Regional Administrator. The report must include:

(1) Name, address, and telephone number of the owner or operator;

(2) Name, address, and telephone number of the facility;

(3) Date, time, and type of incident (e.g., fire, explosion);

(4) Name and quantity of material(s) involved;

(5) The extent of injuries, if any;

(6) An assessment of actual or potential hazards to human health or the environment, where this is applicable; and

(7) Estimated quantity and disposition of recovered material that resulted from the incident.

(Approved by the Office of Management and Budget under control number 2050-0012)

[45 FR 33221, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985]

Subpart E—Manifest System, Recordkeeping, and Reporting

§ 264.70 Applicability.

The regulations in this subpart apply to owners and operators of both on-site and off-site facilities, except as § 264.1 provides otherwise. Sections 264.71, 264.72, and 264.76 do not apply to owners and operators of on-site facilities that do not receive any hazardous waste from off-site sources. Section 264.73(b) only applies to permittees who treat, store, or dispose of hazardous wastes on-site where such wastes were generated.

[50 FR 28746, July 15, 1985]

§ 264.71 Use of manifest system.

(a) If a facility receives hazardous waste accompanied by a manifest, the owner or operator, or his agent, must:

(1) Sign and date each copy of the manifest to certify that the hazardous waste covered by the manifest was received;

(2) Note any significant discrepancies in the manifest (as defined in § 264.72(a)) on each copy of the manifest;

[*Comment:* The Agency does not intend that the owner or operator of a facility whose procedures under § 264.13(c) include waste analysis must perform that analysis before signing the manifest and giving it to the transporter. Section 264.72(b), however, requires reporting an unreconciled discrepancy discovered during later analysis.]

(3) Immediately give the transporter at least one copy of the signed manifest;

(4) Within 30 days after the delivery, send a copy of the manifest to the generator; and

(5) Retain at the facility a copy of each manifest for at least three years from the date of delivery.

(b) If a facility receives, from a rail or water (bulk shipment) transporter, hazardous waste which is accompanied by a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator's certification, and signatures), the owner or operator, or his agent, must:

(1) Sign and date each copy of the manifest or shipping paper (if the manifest has not been received) to certify that the hazardous waste covered by the manifest or shipping paper was received;

(2) Note any significant discrepancies (as defined in § 264.72(a)) in the manifest or shipping paper (if the manifest has not been received) on each copy of the manifest or shipping paper.

[*Comment:* The Agency does not intend that the owner or operator of a facility whose procedures under § 264.13(c) include waste analysis must perform that analysis before signing the shipping paper and giving it to the transporter. Section 264.72(b), however, requires reporting an unreconciled discrepancy discovered during later analysis.]

(3) Immediately give the rail water (bulk shipment) transporter least one copy of the manifest or shi ping paper (if the manifest has been received);

(4) Within 30 days after the deliv send a copy of the signed and da manifest to the generator; however, the manifest has not been recei within 30 days after delivery, t owner or operator, or his agent, mu send a copy of the shipping pa signed and dated to the generator;

[*Comment:* Section 262.23(c) of this chap requires the generator to send three co of the manifest to the facility when haza ous waste is sent by rail or water (bulk sh ment).]

(5) Retain at the facility a copy the manifest and shipping paper signed in lieu of the manifest at t time of delivery) for at least thr years from the date of delivery.

(c) Whenever a shipment of haza ous waste is initiated from a facili the owner or operator of that facili must comply with the requirements Part 262 of this chapter.

[*Comment:* The provisions of § 262.34 applicable to the on-site accumulation hazardous wastes by generators. Therefo the provisions of § 262.34 only apply owners or operators who are shipping h ardous waste which they generated at t facility.]

[45 FR 33221, May 19, 1980, as amended 45 FR 86970, 86974, Dec. 31, 1980]

§ 264.72 Manifest discrepancies.

(a) Manifest discrepancies are diffe ences between the quantity or type hazardous waste designated on t manifest or shipping paper, and t quantity or type of hazardous waste facility actually receives. Significa discrepancies in quantity are:

(1) For bulk waste, variations great than 10 percent in weight, and (2) f batch waste, any variation in pie count, such as a discrepancy of o drum in a truckload. Significant d crepancies in type are obvious diffe ences which can be discovered by i spection or waste analysis, such waste solvent substituted for was acid, or toxic constituents not reporte on the manifest or shipping paper.

) Upon discovering a significant repancy, the owner or operator t attempt to reconcile the discrep- y with the waste generator or sporter (e.g., with telephone con- ations). If the discrepancy is not lved within 15 days after receiving waste, the owner or operator must nediately submit to the Regional ninistrator a letter describing the repancy and attempts to reconcile nd a copy of the manifest or ship- paper at issue.

proved by the Office of Management Budget under control number 2050-)

FR 33221, May 19, 1980, as amended at R 4514, Jan. 31, 1985]

.73 Operating record.

) The owner or operator must keep ritten operating record at his facili-

) The following information must recorded, as it becomes available, maintained in the operating rd until closure of the facility:

) A description and the quantity of n hazardous waste received, and method(s) and date(s) of its treat- nt, storage, or disposal at the facili- s required by Appendix I;

) The location of each hazardous te within the facility and the quan- at each location. For disposal fa- ies, the location and quantity of n hazardous waste must be record- on a map or diagram of each cell or osal area. For all facilities, this in- nation must include cross-refer- es to specific manifest document nbers, if the waste was accompa- l by a manifest;

mment: See § 264.119 for related require- ts.]

) Records and results of waste lyses performed as specified in 64.13, 264.17, 264.314, 264.341, .1034, 264.1063, 268.4(a), and 268.7 his chapter.

) Summary reports and details of incidents that require implement- the contingency plan as specified 264.56(j);

) Records and results of inspec- ns as required by § 264.15(d) (except se data need be kept only three rs);

(6) Monitoring, testing or analytical data, and corrective action where required by subpart F and §§ 264.226, 264.253, 264.254, 264.276, 264.278, 264.280, 264.303, 264.309, 264.347, 264.602, 264.1034(c)-264.1034(f), 264.1035, 264.1063(d)-264.1063(i), and 264.1064.

(7) For off-site facilities, notices to generators as specified in § 264.12(b); and

(8) All closure cost estimates under § 264.142, and, for disposal facilities, all post-closure cost estimates under § 264.144.

(9) A certification by the permittee no less often than annually, that the permittee has a program in place to reduce the volume and toxicity of hazardous waste that he generates to the degree determined by the permittee to be economically practicable; and the proposed method of treatment, storage or disposal is that practicable method currently available to the permittee which minimizes the present and future threat to human health and the environment.

(10) Records of the quantities (and date of placement) for each shipment of hazardous waste placed in land disposal units under an extension to the effective date of any land disposal restriction granted pursuant to § 268.5, a petition pursuant to § 268.6, or a certification under § 268.8, and the applicable notice required by a generator under § 268.7(a);

(11) For an off-site treatment facility, a copy of the notice, and the certification and demonstration, if applicable, required by the generator or the owner or operator under § 268.7 or § 268.8;

(12) For an on-site treatment facility, the information contained in the notice (except the manifest number), and the certification and demonstration if applicable, required by the generator or the owner or operator under § 268.7 or § 268.8;

(13) For an off-site land disposal facility, a copy of the notice, and the certification and demonstration if applicable, required by the generator or the owner or operator of a treatment facility under § 268.7 and § 268.8, whichever is applicable; and

(14) For an on-site land disposal facility, the information contained in the notice required by the generator or owner or operator of a treatment facility under § 268.7, except for the manifest number, and the certification and demonstration if applicable, required under § 268.8, whichever is applicable.

(15) For an off-site storage facility, a copy of the notice, and the certification and demonstration if applicable, required by the generator or the owner or operator under § 268.7 or § 268.8; and

(16) For an on-site storage facility, the information contained in the notice (except the manifest number), and the certification and demonstration if applicable, required by the generator or the owner or operator under § 268.7 or § 268.8.

(Approved by the Office of Management and Budget under control numbers 2050-0012, 2050-0013 and 2040-0042. The reporting and recordkeeping requirements contained in paragraph (b)(9) were approved by the Office of Management and Budget under control number 2050-0037)

[45 FR 33221, May 19, 1980, as amended at 46 FR 2849, Jan. 12, 1981; 46 FR 7678, Jan. 23, 1981; 50 FR 4514, Jan. 31, 1985; 50 FR 18374, Apr. 30, 1985; 50 FR 28746, July 15, 1985; 51 FR 40637, Nov. 7, 1986; 52 FR 21016, June 4, 1987; 52 FR 46963, Dec. 10, 1987; 53 FR 31211, Aug. 17, 1988; 54 FR 26647, June 23, 1989; 55 FR 25494, June 21, 1990]

EFFECTIVE DATE NOTE: At 55 FR 25494, June 21, 1990, in § 264.73, paragraphs (b)(3) and (6) were revised, effective December 21, 1990. For the convenience of the user the superseded text appears as follows:

§ 264.73 Operation record.

* * * * *

(b)* * *

(3) Records and results of waste analyses performed as specified in §§ 264.13, 264.17, 264.314, 264.341, 268.4(a), and 268.7 of this chapter.

* * * * *

(6) Monitoring, testing or analytical data, and corrective action where required by Subpart F and §§ 264.226, 264.253, 264.254, 264.276, 264.278, 264.280, 264.303, 264.309, 264.347, and 264.602;

* * * * *

§ 264.74 Availability, retention, and disposition of records.

(a) All records, including plans, required under this part must be furnished upon request, and made available at all reasonable times for inspection, by any officer, employee, or representative of EPA who is duly designated by the Administrator.

(b) The retention period for all records required under this part is extended automatically during the course of any unresolved enforcement action regarding the facility or as requested by the Administrator.

(c) A copy of records of waste disposal locations and quantities under § 264.73(b)(2) must be submitted to the Regional Administrator and local land authority upon closure of the facility.

§ 264.75 Biennial report.

The owner or operator must prepare and submit a single copy of a biennial report to the Regional Administrator by March 1 of each even numbered year. The biennial report must be submitted on EPA form 8700-13B. The report must cover facility activities during the previous calendar year and must include:

(a) The EPA identification number, name, and address of the facility;

(b) The calendar year covered by the report;

(c) For off-site facilities, the EPA identification number of each hazardous waste generator from which the facility received a hazardous waste during the year; for imported shipments, the report must give the name and address of the foreign generator.

(d) A description and the quantity of each hazardous waste the facility received during the year. For off-site facilities, this information must be listed by EPA identification number of each generator;

(e) The method of treatment, storage, or disposal for each hazardous waste;

(f) [Reserved]

(g) The most recent closure cost estimate under § 264.142, and, for disposal facilities, the most recent post-closure cost estimate under § 264.144; and

(h) For generators who treat, store,
dispose of hazardous waste on-site,
description of the efforts undertaken
ring the year to reduce the volume
d toxicity of waste generated.

(i) For generators who treat, store,
dispose of hazardous waste on-site,
description of the changes in volume
d toxicity of waste actually achieved
ring the year in comparison to pre-
ous years to the extent such infor-
ation is available for the years prior
1984.

(j) The certification signed by the
ner or operator of the facility or his
thorized representative.

pproved by the Office of Management
d Budget under control number 2050-
24)

5 FR 33221, May 19, 1980, as amended at
FR 2849, Jan. 12, 1981; 48 FR 3982, Jan.
, 1983; 50 FR 4514, Jan. 31, 1985; 51 FR
556, Aug. 8, 1986]

264.76 Unmanifested waste report.

If a facility accepts for treatment,
orage, or disposal any hazardous
aste from an off-site source without
accompanying manifest, or without
accompanying shipping paper as
scribed in § 263.20(e)(2) of this chap-
r, and if the waste is not excluded
om the manifest requirement by
261.5 of this chapter, then the owner
operator must prepare and submit a
ngle copy of a report to the Regional
dministrator within fifteen days
ter receiving the waste. The unmani-
sted waste report must be submitted
EPA form 8700-13B. Such report
ust be designated 'Unmanifested
aste Report' and include the follow-
g information:

(a) The EPA identification number,
ame, and address of the facility;

(b) The date the facility received the
aste;

(c) The EPA identification number,
ame, and address of the generator
nd the transporter, if available;

(d) A description and the quantity of
ach unmanifested hazardous waste
nd facility received;

(e) The method of treatment, stor-
ge, or disposal for each hazardous
aste;

(f) The certification signed by the
wner or operator of the facility or his
uthorized representative; and

(g) A brief explanation of why the waste was unmanifested, if known.

[*Comment:* Small quantities of hazardous waste are excluded from regulation under this part and do not require a manifest. Where a facility receives unmanifested hazardous wastes, the Agency suggests that the owner or operator obtain from each generator a certification that the waste qualifies for exclusion. Otherwise, the Agency suggests that the owner or operator file an unmanifested waste report for the hazardous waste movement.]

(Approved by the Office of Management and Budget under control number 2050-0012)

[45 FR 33221, May 19, 1980, as amended at 48 FR 3982, Jan. 28, 1983; 50 FR 4514, Jan. 31, 1985]

§ 264.77 Additional reports.

In addition to submitting the biennial reports and unmanifested waste reports described in §§ 264.75 and 264.76, the owner or operator must also report to the Regional Administrator:

(a) Releases, fires, and explosions as specified in § 264.56(j);

(b) Facility closures specified in §264.115; and

(c) As otherwise required by subparts F, K through N, AA, and BB.

[46 FR 2849, Jan. 12, 1981, as amended at 47 FR 32350, July 26, 1982; 48 FR 3982, Jan. 28, 1983; 55 FR 25494, June 21, 1990]

Effective Date Note: At 55 FR 25494, June 21, 1990, in § 264.77, paragraph (c) was revised, effective December 21, 1990. For the convenience of the user the superseded text appears as follows:

§ 264.77 Additional reports.

* * * * *

(c) As otherwise required by Subparts F and K through N.

* * * * *

Subpart F—Releases From Solid Waste Management Units

Source: 47 FR 32350, July 26, 1982, unless otherwise noted.

§ 264.90 Applicability.

(a)(1) Except as provided in paragraph (b) of this section, the regulations in this subpart apply to owners or operators of facilities that treat, store or dispose of hazardous waste. The owner or operator must satisfy the requirements identified in paragraph (a)(2) of this section for all wastes (or constituents thereof) contained in solid waste management units at the facility, regardless of the time at which waste was placed in such units.

(2) All solid waste management units must comply with the requirements in § 264.101. A surface impoundment, waste pile, and land treatment unit or landfill that receives hazardous waste after July 26, 1982 (hereinafter referred to as a "regulated unit") must comply with the requirements of §§ 264.91 through 264.100 in lieu of § 264.101 for purposes of detecting, characterizing and responding to releases to the uppermost aquifer. The finanical responsibility requirements of § 264.101 apply to regulated units.

(b) The owner or operator's regulated unit or units are not subject to regulation for releases into the uppermost aquifer under this subpart if:

(1) The owner or operator is exempted under § 264.1; or

(2) He operates a unit which the Regional Administrator finds:

(i) Is an engineered structure,

(ii) Does not receive or contain liquid waste or waste containing free liquids,

(iii) Is designed and operated to exclude liquid, precipitation, and other run-on and run-off,

(iv) Has both inner and outer layers of containment enclosing the waste,

(v) Has a leak detection system built into each containment layer,

(vi) The owner or operator will provide continuing operation and maintenance of these leak detection systems during the active life of the unit and the closure and post-closure care periods, and

(vii) To a reasonable degree of certainty, will not allow hazardous constituents to migrate beyond the outer containment layer prior to the end of the the post-closure care period.

(3) The Regional Administrator finds, pursuant to § 264.280(d), that the treatment zone of a land treatment unit that qualifies as a regulated unit does not contain levels of hazardous constituents that are above background levels of those constituents by an amount that is statistically significant, and if an unsaturated zone monitoring program meeting the requirements of § 264.278 has not shown a statistically significant increase in hazardous constituents below the treatment zone during the operating life of the unit. An exemption under this paragraph can only relieve an owner or operator of responsibility to meet the requirements of this subpart during the post-closure care period; or

(4) The Regional Administrator finds that there is no potential for migration of liquid from a regulated unit to the uppermost aquifer during the active life of the regulated unit (including the closure period) and the port-closure care period specified under § 264.117. This demonstration must be certified by a qualified geologist or geotechnical engineer. In order to provide an adequate margin of safety in the prediction of potential migration of liquid, the owner or operator must base any predictions made under this paragraph on assumptions that maximize the rate of liquid migration.

(5) He designs and operates a pile in compliance with § 264.250(c).

(c) The regulations under this subpart apply during the active life of the regulated unit (including the closure period). After closure of the regulated unit, the regulations in this subpart:

(1) Do not apply if all waste, waste residues, contaminated containment system components, and contaminated subsoils are removed or decontaminated at closure;

(2) Apply during the post-closure care period under § 264.117 if the owner or operator is conducting a detection monitoring program under § 264.98; or

(3) Apply during the compliance period under § 264.96 if the owner or operator is conducting a compliance monitoring program under § 264.99 or a corrective action program under § 264.100.

(d) Regulations in this subpart may apply to miscellaneous units when necessary to comply with §§ 264.600 through 264.603.

[47 FR 32350, July 26, 1982, as amended at 50 FR 28746, July 15, 1985; 52 FR 46963, Dec. 10, 1987]

§ 264.91 Required programs.

(a) Owners and operators subject to this subpart must conduct a monitoring and response program as follows:

(1) Whenever hazardous constituents under § 264.93 from a regulated unit are detected at a compliance point under § 264.95, the owner or operator must institute a compliance monitoring program under § 264.99. Detected is defined as statistically significant evidence of contamination as described in § 264.98(f);

(2) Whenever the ground-water protection standard under § 264.92 is exceeded, the owner or operator must institute a corrective action program under § 264.100. Exceeded is defined as statistically significant evidence of increased contamination as described in § 264.99(d);

(3) Whenever hazardous constituents under § 264.93 from a regulated unit exceed concentration limits under § 264.94 in ground water between the compliance point under § 264.95 and the downgradient facility property boundary, the owner or operator must institute a corrective action program under § 264.100; or

(4) In all other cases, the owner or operator must institute a detection monitoring program under § 264.98.

(b) The Regional Administrator will specify in the facility permit the specific elements of the monitoring and response program. The Regional Administrator may include one or more of the programs identified in paragraph (a) of this section in the facility permit as may be necessary to protect human health and the environment and will specify the circumstances under which each of the programs will be required. In deciding whether to require the owner or operator to be prepared to institute a particular program, the Regional Administrator will consider the potential adverse effects on human health and the environment that might occur before final administrative action on a permit modification application to incorporate such a program could be taken.

[47 FR 32350, July 26, 1982, as amended at 53 FR 39728, Oct. 11, 1988]

§ 264.92 Ground-water protection standard.

The owner or operator must comply with conditions specified in the facility permit that are designed to ensure that hazardous constituents under § 264.93 detected in the ground water from a regulated unit do not exceed the concentration limits under § 264.94 in the uppermost aquifer underlying the waste management area beyond the point of compliance under § 264.95 during the compliance period under § 264.96. The Regional Administrator will establish this ground-water protection standard in the facility permit when hazardous constituents have been detected in the ground water.

[53 FR 39728, Oct. 11, 1988]

§ 264.93 Hazardous constituents.

(a) The Regional Administrator will specify in the facility permit the hazardous constituents to which the ground-water protection standard of § 264.92 applies. Hazardous constituents are constituents identified in Appendix VIII of Part 261 of this chapter that have been detected in ground water in the uppermost aquifer underlying a regulated unit and that are reasonably expected to be in or derived from waste contained in a regulated unit, unless the Regional Administrator has excluded them under paragraph (b) of this section.

(b) The Regional Administrator will exclude an Appendix VIII constituent from the list of hazardous constituents specified in the facility permit if he finds that the constituent is not capable of posing a substantial present or potential hazard to human health or the environment. In deciding whether to grant an exemption, the Regional Administrator will consider the following:

(1) Potential adverse effects on ground-water quality, considering:

(i) The physical and chemical characteristics of the waste in the regulated unit, including its potential for migration;

(ii) The hydrogeological characteristics of the facility and surrounding land;

(iii) The quantity of ground water and the direction of ground-water flow;

(iv) The proximity and withdrawal rates of ground-water users;

(v) The current and future uses of ground water in the area;

(vi) The existing quality of ground water, including other sources of contamination and their cumulative impact on the ground-water quality;

(vii) The potential for health risks caused by human exposure to waste constituents;

(viii) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;

(ix) The persistence and permanence of the potential adverse effects; and

(2) Potential adverse effects on hydraulically-connected surface water quality, considering:

(i) The volume and physical and chemical characteristics of the waste in the regulated unit;

(ii) The hydrogeological characteristics of the facility and surrounding land;

(iii) The quantity and quality of ground water, and the direction of ground-water flow;

(iv) The patterns of rainfall in the region;

(v) The proximity of the regulated unit to surface waters;

(vi) The current and future uses of surface waters in the area and any water quality standards established for those surface waters;

(vii) The existing quality of surface water, including other sources of contamination and the cumulative impact on surface-water quality;

(viii) The potential for health risks caused by human exposure to waste constituents;

(ix) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and

(x) The persistence and permanence of the potential adverse effects.

(c) In making any determination under paragraph (b) of this section about the use of ground water in the area around the facility, the Regio Administrator will consider any iden fication of underground sources drinking water and exempted aquife made under § 144.8 of this chapter.

[47 FR 32350, July 26, 1982, as amended 48 FR 14294, Apr. 1, 1983]

§ 264.94 Concentration limits.

(a) The Regional Administrator wi specify in the facility permit conce tration limits in the ground water fo hazardous constituents establishe under § 264.93. The concentration of hazardous constituent:

(1) Must not exceed the backgroun level of that constituent in the groun water at the time that limit is spec fied in the permit; or

(2) For any of the constituents liste in Table 1, must not exceed the respe tive value given in that table if the background level of the constituent i below the value given in Table 1; or

TABLE 1—MAXIMUM CONCENTRATION OF CO STITUENTS FOR GROUND-WATER PROTE TION

Constituent	Maxim concen tion[1]
Arsenic	0.0
Barium	1.0
Cadmium	0.0
Chromium	0.0
Lead	0.0
Mercury	0.0
Selenium	0.0
Silver	0.0
Endrin (1,2,3,4,10,10-hexachloro-1,7-epoxy-1,4,4a,5,6,7,8,9a-octahydro-1, 4-endo, endo-5,8-dimethano naphthalene)	0.0
Lindane (1,2,3,4,5,6-hexachlorocyclohexane, gamma isomer)	0.0
Methoxychlor (1,1,1-Trichloro-2,2-bis (p-methoxyphenylethane)	0.1
Toxaphene ($C_{10}H_{10}Cl_6$, Technical chlorinated camphene, 67-69 percent chlorine)	0.0
2,4-D (2,4-Dichlorophenoxyacetic acid)	0.1
2,4,5-TP Silvex (2,4,5-Trichlorophenoxypropionic acid)	0.0

[1] Milligrams per liter.

(3) Must not exceed an alterna limit established by the Regional Ad ministrator under paragraph (b) this section.

(b) The Regional Administrator wi establish an alternate concentratio limit for a hazardous constituent if finds that the constituent will n pose a substantial present or potential hazard to human health or the environment as long as the alternate concentration limit is not exceeded. In establishing alternate concentration limits, the Regional Administrator will consider the following factors:

(1) Potential adverse effects on ground-water quality, considering:

(i) The physical and chemical characteristics of the waste in the regulated unit, including its potential for migration;

(ii) The hydrogeological characteristics of the facility and surrounding land;

(iii) The quantity of ground water and the direction of ground-water flow;

(iv) The proximity and withdrawal rates of ground-water users;

(v) The current and future uses of ground water in the area;

(vi) The existing quality of ground water, including other sources of contamination and their cumulative impact on the ground-water quality;

(vii) The potential for health risks caused by human exposure to waste constituents;

(viii) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;

(ix) The persistence and permanence of the potential adverse effects; and

(2) Potential adverse effects on hydraulically-connected surface-water quality, considering:

(i) The volume and physical and chemical characteristics of the waste in the regulated unit;

(ii) The hydrogeological characteristics of the facility and surrounding land;

(iii) The quantity and quality of ground water, and the direction of ground-water flow;

(iv) The patterns of rainfall in the region;

(v) The proximity of the regulated unit to surface waters;

(vi) The current and future uses of surface waters in the area and any water quality standards established for those surface waters;

(vii) The existing quality of surface water, including other sources of contamination and the cumulative impact on surface water quality;

(viii) The potential for health risks caused by human exposure to waste constituents;

(ix) The potential damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and

(x) The persistence and permanence of the potential adverse effects.

(c) In making any determination under paragraph (b) of this section about the use of ground water in the area around the facility the Regional Administrator will consider any identification of underground sources of drinking water and exempted aquifers made under § 144.8 of this chapter.

[47 FR 32350, July 26, 1982, as amended at 48 FR 14294, Apr. 1, 1983]

§ 264.95 Point of compliance.

(a) The Regional Administrator will specify in the facility permit the point of compliance at which the ground-water protection standard of § 264.92 applies and at which monitoring must be conducted. The point of compliance is a vertical surface located at the hydraulically downgradient limit of the waste management area that extends down into the uppermost aquifer underlying the regulated units.

(b) The waste management area is the limit projected in the horizontal plane of the area on which waste will be placed during the active life of a regulated unit.

(1) The waste management area includes horizontal space taken up by any liner, dike, or other barrier designed to contain waste in a regulated unit.

(2) If the facility contains more than one regulated unit, the waste management area is described by an imaginary line circumscribing the several regulated units.

§ 264.96 Compliance period.

(a) The Regional Administrator will specify in the facility permit the compliance period during which the ground-water protection standard of § 264.92 applies. The compliance period is the number of years equal to the active life of the waste management area (including any waste management activity prior to permitting, and the closure period.)

(b) The compliance period begins when the owner or operator initiates a compliance monitoring program meeting the requirements of § 264.99.

(c) If the owner or operator is engaged in a corrective action program at the end of the compliance period specified in paragraph (a) of this section, the compliance period is extended until the owner or operator can demonstrate that the ground-water protection standard of § 264.92 has not been exceeded for a period of three consecutive years.

§ 264.97 General ground-water monitoring requirements.

The owner or operator must comply with the following requirements for any ground-water monitoring program developed to satisfy § 264.98, § 264.99, or § 264.100:

(a) The ground-water monitoring system must consist of a sufficient number of wells, installed at appropriate locations and depths to yield ground-water samples from the uppermost aquifer that:

(1) Represent the quality of background water that has not been affected by leakage from a regulated unit;

(i) A determination of background quality may include sampling of wells that are not hydraulically upgradient of the waste management area where:

(A) Hydrogeologic conditions do not allow the owner or operator to determine what wells are hydraulically upgradient; and

(B) Sampling at other wells will provide an indication of background ground-water quality that is representative or more representative than that provided by the upgradient wells; and

(2) Represent the quality of ground water passing the point of compliance.

(3) Allow for the detection of contamination when hazardous waste or hazardous constituents have migrated from the waste management area to the uppermost aquifer.

(b) If a facility contains more than one regulated unit, separate ground-water monitoring systems are not required for each regulated unit provided that provisions for sampling the ground water in the uppermost aquifer will enable detection and measurement at the compliance point of hazardous constituents from the regulated units that have entered the ground water in the uppermost aquifer.

(c) All monitoring wells must be cased in a manner that maintains the integrity of the monitoring-well bore hole. This casing must be screened or perforated and packed with gravel or sand, where necessary, to enable collection of ground-water samples. The annular space (i.e., the space between the bore hole and well casing) above the sampling depth must be sealed to prevent contamination of samples and the ground water.

(d) The ground-water monitoring program must include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide a reliable indication of ground-water quality below the waste management area. At a minimum the program must include procedures and techniques for:

(1) Sample collection;

(2) Sample preservation and shipment;

(3) Analytical procedures; and

(4) Chain of custody control.

(e) The ground-water monitoring program must include sampling and analytical methods that are appropriate for ground-water sampling and that accurately measure hazardous constituents in ground-water samples.

(f) The ground-water monitoring program must include a determination of the ground-water surface elevation each time ground water is sampled.

(g) In detection monitoring or where appropriate in compliance monitoring, data on each hazardous constituent specified in the permit will be collected from background wells and wells at the compliance point(s). The number and kinds of samples collected to establish background shall be appropriate for the form of statistical test employed, following generally accepted statistical principles. The sample size shall be as large as necessary to ensure with reasonable confidence that a contaminant release to ground water from a facility will be detected. The owner or operator will determine an appropriate sampling procedure and interval for each hazardous constituent listed in the facility permit which shall be specified in the unit permit upon approval by the Regional Administrator. This sampling procedure shall be:

(1) A sequence of at least four samples, taken at an interval that assures, to the greatest extent technically feasible, that an independent sample is obtained, by reference to the uppermost aquifer's effective porosity, hydraulic conductivity, and hydraulic gradient, and the fate and transport characteristics of the potential contaminants, or

(2) an alternate sampling procedure proposed by the owner or operator and approved by the Regional Administrator.

(h) The owner or operator will specify one of the following statistical methods to be used in evaluating ground-water monitoring data for each hazardous constituent which, upon approval by the Regional Administrator, will be specified in the unit permit. The statistical test chosen shall be conducted separately for each hazardous constituent in each well. Where practical quantification limits (pql's) are used in any of the following statistical procedures to comply with § 264.97(i)(5), the pql must be proposed by the owner or operator and approved by the Regional Administrator. Use of any of the following statistical methods must be protective of human health and the environment and must comply with the performance standards outlined in paragraph (i) of this section.

(1) A parametric analysis of variance (ANOVA) followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's mean and the background mean levels for each constituent.

(2) An analysis of variance (ANOVA) based on ranks followed by multiple comparisons procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's median and the background median levels for each constituent.

(3) A tolerance or prediction interval procedure in which an interval for each constituent is established from the distribution of the background data, and the level of each constituent in each compliance well is compared to the upper tolerance or prediction limit.

(4) A control chart approach that gives control limits for each constituent.

(5) Another statistical test method submitted by the owner or operator and approved by the Regional Administrator.

(i) Any statistical method chosen under § 264.97(h) for specification in the unit permit shall comply with the following performance standards, as appropriate:

(1) The statistical method used to evaluate ground-water monitoring data shall be appropriate for the distribution of chemical parameters or hazardous constituents. If the distribution of the chemical parameters or hazardous constituents is shown by the owner or operator to be inappropriate for a normal theory test, then the data should be transformed or a distribution-free theory test should be used. If the distributions for the constituents differ, more than one statistical method may be needed.

(2) If an individual well comparison procedure is used to compare an individual compliance well constituent concentration with background constituent concentrations or a ground-water protection standard, the test shall be done at a Type I error level no less than 0.01 for each testing period. If a multiple comparisons procedure is used, the Type I experimentwise error rate for each testing period shall be no less than 0.05; however, the Type I error of no less than 0.01 for individual well comparisons must be maintained. This performance standard does not apply to tolerance intervals, prediction intervals or control charts.

(3) If a control chart approach is used to evaluate ground-water monitoring data, the specific type of control chart and its associated parameter values shall be proposed by the owner or operator and approved by the Regional Administrator if he or she finds

it to be protective of human health and the environment.

(4) If a tolerance interval or a prediction interval is used to evaluate groundwater monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval must contain, shall be proposed by the owner or operator and approved by the Regional Administrator if he or she finds these parameters to be protective of human health and the environment. These parameters will be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern.

(5) The statistical method shall account for data below the limit of detection with one or more statistical procedures that are protective of human health and the environment. Any practical quantification limit (pql) approved by the Regional Administrator under § 264.97(h) that is used in the statistical method shall be the lowest concentration level tha can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the facility.

(6) If necessary, the statistical method shall include procedures to control or correct for seasonal and spatial variability as well as temporal correlation in the data.

(j) Ground-water monitoring data collected in accordance with paragraph (g) of this section including actual levels of constituents must be maintained in the facility operating record. The Regional Administrator will specify in the permit when the data must be submitted for review.

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[47 FR 32350, July 26, 1982, as amended at 50 FR 4514, Jan. 31, 1985; 53 FR 39728, Oct. 11, 1988]

§ 264.98 Detection monitoring program.

An owner or operator required to establish a detection monitoring program under this subpart must, at a minimum, discharge the following responsibilities:

(a) The owner or operator mus monitor for indicator parameters (e.g specific conductance, total organi carbon, or total organic halogen waste constituents, or reaction products that provide a reliable indicatio of the presence of hazardous constituents in ground water. The Regiona Administrator will specify the parameters or constituents to be monitore in the facility permit, after considering the following factors:

(1) The types, quantities, and concentrations of constituents in waste managed at the regulated unit;

(2) The mobility, stability, and persistance of waste constituents or thei reaction products in the unsaturate zone beneath the waste managemen area;

(3) The detectability of indicator parameters, waste constituents, and rea tion products in ground water; and

(4) The concentrations or values an coefficients of variation of propose monitoring parameters or constituen in the ground-water background.

(b) The owner or operator must i stall a ground-water monitorin system at the compliance point specified under § 264.95. The groun water monitoring system must comp with § 264.97(a)(2), (b), and (c).

(c) The owner or operator must co duct a ground-water monitoring pr gram for each chemical parameter a hazardous constituent specified in th permit pursuant to paragraph (a) this section in accordance wi § 264.97(g). The owner or operat must maintain a record of groun water analytical data as measured a in a form necessary for the determin tion of statistical significance und § 264.97(h).

(d) The Regional Administrator w specify the frequencies for collecti samples and conducting statisti tests to determine whether there statistically significant evidence contamination for any parameter hazardous constituent specified in t permit under paragraph (a) of t section in accordance with § 264.97(A sequence of at least four samp from each well (background and co pliance wells) must be collected least semi-annually during detecti monitoring.

(e) The owner or operator must determine the ground-water flow rate and direction in the uppermost aquifer at least annually.

(f) The owner or operator must determine whether there is statistically significant evidence of contamination for any chemical parameter of hazardous constituent specified in the permit pursuant to paragraph (a) of this section at a frequency specified under paragraph (d) of this section.

(1) In determining whether statistically significant evidence of contamination exists, the owner or operator must use the method(s) specified in the permit under § 264.97(h). These method(s) must compare data collected at the compliance point(s) to the background ground-water quality data.

(2) The owner or operator must determine whether there is statistically significant evidence of contamination at each monitoring well as the compliance point within a reasonable period of time after completion of sampling. The Regional Administrator will specify in the facility permit what period of time is reasonable, after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of ground-water samples.

(g) If the owner or operator determines pursuant to paragraph (f) of this section that there is statistically significant evidence of contamination for chemical parameters or hazardous constituents specified pursuant to paragraph (a) of this section at any monitoring well at the compliance point, he or she must:

(1) Notify the Regional Administrator of this finding in writing within seven days. The notification must indicate what chemical parameters or hazardous constituents have shown statistically significant evidence of contamination;

(2) Immediately sample the ground water in all monitoring wells and determine whether constituents in the list of Appendix IX of Part 264 are present, and if so, in what concentration.

(3) For any Appendix IX compounds found in the analysis pursuant to paragraph (g)(2) of this section, the owner or operator may resample within one month and repeat the analysis for those compounds detected. If the results of the second analysis confirm the initial results, then these constituents will form the basis for compliance monitoring. If the owner or operator does not resample for the compounds found pursuant to paragraph (g)(2) of this section, the hazardous constituents found during this initial Appendix IX analysis will form the basis for compliance monitoring.

(4) Within 90 days, submit to the Regional Administrator an application for a permit modification to establish a compliance monitoring program meeting the requirements of § 264.99. The application must include the following information:

(i) An identification of the concentration or any Appendix IX constituent detected in the ground water at each monitoring well at the compliance point;

(ii) Any proposed changes to the ground-water monitoring system at the facility necessary to meet the requirements of § 264.99;

(iii) Any proposed additions or changes to the monitoring frequency, sampling and analysis procedures or methods, or statistical methods used at the facility necessary to meet the requirements of § 264.99;

(iv) For each hazardous constituent detected at the compliance point, a proposed concentration limit under § 264.94(a) (1) or (2), or a notice of intent to seek an alternate concentration limit under § 264.94(b); and

(5) Within 180 days, submit to the Regional Administrator:

(i) All data necessary to justify an alternate concentration limit sought under § 264.94(b); and

(ii) An engineering feasibility plan for a corrective action program necessary to meet the requirement of § 264.100, unless:

(A) All hazardous constituents identified under paragraph (g)(2) of this section are listed in Table 1 of § 264.94 and their concentrations do not exceed the respective values given in that Table; or

(B) The owner or operator has sought an alternate concentration limit under § 264.94(b) for every hazardous constituent identified under paragraph (g)(2) of this section.

(6) If the owner or operator determines, pursuant to paragraph (f) of this section, that there is a statistically significant difference for chemical parameters or hazardous constituents specified pursuant to paragraph (a) of this section at any monitoring well at the compliance point, he or she may demonstrate that a source other than a regulated unit caused the contamination or that the detection is an artifact caused by an error in sampling, analysis, or statistical evaluation or natural variation in the ground water. The owner operator may make a demonstration under this paragraph in addition to, or in lieu of, submitting a permit modification application under paragraph (g)(4) of this section; however, the owner or operator is not relieved of the requirement to submit a permit modification application within the time specified in paragraph (g)(4) of this section unless the demonstration made under this paragraph successfully shows that a source other than a regulated unit caused the increase, or that the increase resulted from error in sampling, analysis, or evaluation. In making a demonstration under this paragraph, the owner or operator must:

(i) Notify the Regional Administrator in writing within seven days of determining statistically significant evidence of contamination at the compliance point that he intends to make a demonstration under this paragraph;

(ii) Within 90 days, submit a report to the Regional Administrator which demonstrates that a source other than a regulated unit caused the contamination or that the contamination resulted from error in sampling, analysis, or evaluation;

(iii) Within 90 days, submit to the Regional Administrator an application for a permit modification to make any appropriate changes to the detection monitoring program facility; and

(iv) Continue to monitor in accordance with the detection monitoring program established under this section.

(h) If the owner or operator determines that the detection monitoring program no longer satisfies the requirements of this section, he or she must, within 90 days, submit an application for a permit modification to make any appropriate changes to the program.

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[47 FR 32350, July 26, 1982, as amended at 50 FR 4514, Jan. 31, 1985; 52 FR 25946, July 9, 1987; 53 FR 39729, Oct. 11, 1988]

§ 264.99 Compliance monitoring program.

An owner or operator required to establish a compliance monitoring program under this subpart must, at a minimum, discharge the following responsibilities:

(a) The owner or operator must monitor the ground water to determine whether regulated units are in compliance with the ground-water protection standard under § 264.92. The Regional Administrator will specify the ground-water protection standard in the facility permit, including:

(1) A list of the hazardous constituents identified under § 264.93;

(2) Concentration limits under § 264.94 for each of those hazardous constituents;

(3) The compliance point under § 264.95; and

(4) The compliance period under § 264.96.

(b) The owner or operator must install a ground-water monitoring system at the compliance point as specified under § 264.95. The ground-water monitoring system must comply with § 264.97(a)(2), (b), and (c).

(c) The Regional Administrator will specify the sampling procedures and statistical methods appropriate for the constituents and the facility, consistent with § 264.97 (g) and (h).

(1) The owner or operator must conduct a sampling program for each chemical parameter or hazardous constituent in accordance with § 264.97(g).

(2) The owner or operator must record ground-water analytical data as measured and in form necessary for the determination of statistical significance under § 264.97(h) for the compliance period of the facility.

(d) The owner or operator must determine whether there is statistically significant evidence of increased contamination for any chemical parameter or hazardous constituent specified in the permit, pursuant to paragraph (a) of this section, at a frequency specified under paragraph (f) under this section.

(1) In determining whether statistically significant evidence of increased contamination exists, the owner or operator must use the method(s) specified in the permit under § 264.97(h). The methods(s) must compare data collected at the compliance point(s) to a concentration limit developed in accordance with § 264.94.

(2) The owner or operator must determine whether there is statistically significant evidence of increased contamination at each monitoring well at the compliance point within a reasonable time period after completion of sampling. The Regional Administrator will specify that time period in the facility permit, after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of groundwater samples.

(e) The owner or operator must determine the ground-water flow rate and direction in the uppermost aquifer at least annually.

(f) The Regional Administrator will specify the frequencies for collecting samples and conducting statistical tests to determine statistically significant evidence of increased contamination in accordance with § 264.97(g). A sequence of at least four samples from each well (background and compliance wells) must be collected at least semiannually during the compliance period of the facility.

(g) The owner or operator must analyze samples from all monitoring wells at the compliance point for all constituents contained in Appendix IX of Part 264 at least annually to determine whether additional hazardous constituents are present in the uppermost aquifer and, if so, at what concentration, pursuant to procedures in § 264.98(f). If the owner or operator finds Appendix IX constituents in the ground water that are not already identified in the permit as monitoring constituents, the owner or operator may resample within one month and repeat the Appendix IX analysis. If the second analysis confirms the presence of new constituents, the owner or operator must report the concentration of these additional constituents to the Regional Administrator within seven days after the completion of the second analysis and add them to the monitoring list. If the owner or operator chooses not to resample, then he or she must report the concentrations of these additional constituents to the Regional Administrator within seven days after completion of the intiial analysis and add them to the monitoring list.

(h) If the owner or operator determines pursuant to paragraph (d) of this section that any concentration limits under § 264.94 are being exceeded at any monitoring well at the point of compliance he or she must:

(1) Notify the Regional Administrator of this finding in writing within seven days. The notification must indicate what concentration limits have been exceeded.

(2) Submit to the Regional Administrator an application for a permit modification to establish a corrective action program meeting the requirements of § 264.100 within 180 days, or within 90 days if an engineering feasibility study has been previously submitted to the Regional Administrator under § 264.98(h)(5). The application must at a minimum include the following information:

(i) A detailed description of corrective actions that will achieve compliance with the ground-water protection standard specified in the permit under paragraph (a) of this section; and

(ii) A plan for a ground-water monitoring program that will demonstrate the effectiveness of the corrective action. Such a ground-water monitoring program may be based on a compliance monitoring program developed to meet the requirements of this section.

(i) If the owner or operator determines, pursuant to paragraph (d) of this section, that the ground-water concentration limits under this section are being exceeded at any monitoring well at the point of compliance, he or she may demonstrate that a source other than a regulated unit caused the contamination or that the detection is an artifact caused by an error in sampling, analysis, or statistical evaluation or natural variation in the ground water. In making a demonstration under this paragraph, the owner or operator must:

(1) Notify the Regional Administrator in writing within seven days that he intends to make a demonstration under this paragraph;

(2) Within 90 days, submit a report to the Regional Administrator which demonstrates that a source other than a regulated unit caused the standard to be exceeded or that the apparent noncompliance with the standards resulted from error in sampling, analysis, or evaluation;

(3) Within 90 days, submit to the Regional Administrator an application for a permit modification to make any appropriate changes to the compliance monitoring program at the facility; and

(4) Continue to monitor in accord with the compliance monitoring program established under this section.

(j) If the owner or operator determines that the compliance monitoring program no longer satisfies the requirements of this section, he must, within 90 days, submit an application for a permit modification to make any appropriate changes to the program.

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[47 FR 32350, July 26, 1982, as amended at 50 FR 4514, Jan. 31, 1985; 52 FR 25946, July 9, 1987; 53 FR 39730, Oct. 11, 1988]

§ 264.100 Corrective action program.

An owner or operator required to establish a corrective action program under this subpart must, at a minimum, discharge the following responsibilities:

(a) The owner or operator must take corrective action to ensure that regulated units are in compliance with the ground-water protection standard under § 264.92. The Regional Administrator will specify the ground-water protection standard in the facility permit, including:

(1) A list of the hazardous constituents identified under § 264.93;

(2) Concentration limits under § 264.94 for each of those hazardous constituents;

(3) The compliance point under § 264.95; and

(4) The compliance period under § 264.96.

(b) The owner or operator must implement a corrective action program that prevents hazardous constituents from exceeding their respective concentration limits at the compliance point by removing the hazardous waste constituents or treating them in place. The permit will specify the specific measures that will be taken.

(c) The owner or operator must begin corrective action within a reasonable time period after the ground-water protection standard is exceeded. The Regional Administrator will specify that time period in the facility permit. If a facility permit includes a corrective action program in addition to a compliance monitoring program, the permit will specify when the corrective action will begin and such a requirement will operate in lieu of § 264.99(i)(2).

(d) In conjunction with a corrective action program, the owner or operator must establish and implement a ground-water monitoring program to demonstrate the effectiveness of the corrective action program. Such a monitoring program may be based on the requirements for a compliance monitoring program under § 264.99 and must be as effective as that program in determining compliance with the ground-water protection standard under § 264.92 and in determining the success of a corrective action program under paragraph (e) of this section, where appropriate.

(e) In addition to the other requirements of this section, the owner or operator must conduct a corrective action program to remove or treat in place any hazardous constituents under § 264.93 that exceed concentration limits under § 264.94 in ground-water:

(1) Between the compliance point under § 264.95 and the downgradient property boundary; and

(2) Beyond the facility boundary, where necessary to protect human health and the environment, unless

he owner or operator demonstrates to he satisfaction of the Regional Ad- inistrator that, despite the owner's r operator's best efforts, the owner or perator was unable to obtain the nec- ssary permission to undertake such ction. The owner/operator is not re- eved of all responsibility to clean up release that has migrated beyond he facility boundary where off-site ccess is denied. On-site measures to ddress such releases will be determined on a case-by-case basis.

(3) Corrective action measures under is paragraph must be initiated and mpleted within a reasonable period f time considering the extent of con- mination.

(4) Corrective action measures under is paragraph may be terminated ce the concentration of hazardous nstituents under § 264.93 is reduced levels below their respective concen- ation limits under § 264.94.

(f) The owner or operator must con- nue corrective action measures ring the compliance period to the tent necessary to ensure that the ound-water protection standard is t exceeded. If the owner or operator conducting corrective action at the d of the compliance period, he must ntinue that corrective action for as ng as necessary to achieve compli- ce with the ground-water protection andard. The owner or operator may rminate corrective action measures ken beyond the period equal to the tive life of the waste management ea (including the closure period) if can demonstrate, based on data om the ground-water monitoring ogram under paragraph (d) of this ction, that the ground-water protec- on standard of § 264.92 has not been ceeded for a period of three consec- ive years.

(g) The owner or operator must port in writing to the Regional Ad- inistrator on the effectiveness of the rrective action program. The owner operator must submit these reports mi-annually.

(h) If the owner or operator deter- ines that the corrective action pro- am no longer satisfies the require- ents of this section, he must, within days, submit an application for a permit modification to make any appropriate changes to the program.

(Approved by the Office of Management and Budget under control number 2050-0033)

[47 FR 32350, July 26, 1985, as amended at 50 FR 4514, Jan. 31, 1985; 52 FR 45798, Dec. 1, 1987]

§ 264.101 Corrective action for solid waste management units.

(a) The owner or operator of a facility seeking a permit for the treatment, storage or disposal of hazardous waste must institute corrective action as necessary to protect human health and the environment for all releases of hazardous waste or constituents from any solid waste management unit at the facility, regardless of the time at which waste was placed in such unit.

(b) Corrective action will be specified in the permit. The permit will contain schedules of compliance for such corrective action (where such corrective action cannot be completed prior to issuance of the permit) and assurances of financial responsibility for completing such corrective action.

(c) The owner or operator must implement corrective actions beyond the facility property boundary, where necessary to protect human health and the environment, unless the owner or operator demonstrates to the satisfaction of the Regional Administrator that, despite the owner's or operator's best efforts, the owner or operator was unable to obtain the necessary permission to undertake such actions. The owner/operator is not relieved of all responsibility to clean up a release that has migrated beyond the facility boundary where off-site access is denied. On-site measures to address such releases will be determined on a case-by-case basis. Assurances of financial responsibility for such corrective action must be provided.

[50 FR 28747, July 15, 1985, as amended at 52 FR 45798, Dec. 1, 1987]

Subpart G—Closure and Post-Closure

SOURCE: 51 FR 16444, May 2, 1986, unless otherwise noted.

§ 264.110 Applicability.

Except as § 264.1 provides otherwise:

(a) Sections 264.111 through 264.115 (which concern closure) apply to the owners and operators of all hazardous waste management facilities; and

(b) Sections 264.116 through 264.120 (which concern post-closure care) apply to the owners and operators of:

(1) All hazardous waste disposal facilities; and

(2) Waste piles and surface impoundments from which the owner or operator intends to remove the wastes at closure to the extent that these sections are made applicable to such facilities in § 264.228 or § 264.258.

(3) Tank systems that are required under § 264.197 to meet the requirements for landfills.

[51 FR 16444, May 2, 1986, as amended at 51 FR 25472, July 14, 1986]

§ 264.111 Closure performance standard.

The owner or operator must close the facility in a manner that:

(a) Minimizes the need for further maintenance; and

(b) Controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere; and

(c) Complies with the closure requirements of this subpart, including, but not limited to, the requirements of §§ 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351, and 264.601 through 264.603.

[51 FR 16444, May 2, 1986, as amended at 52 FR 46963, Dec. 10, 1987]

§ 264.112 Closure plan; amendment of plan.

(a) *Written plan.* (1) The owner or operator of a hazardous waste management facility must have a written closure plan. In addition, certain surface impoundments and waste piles from which the owner or operator intends to remove or decontaminate the hazardous waste at partial or final closure are required by §§ 264.228(c)(1)(i) and 264.258(c)(1)(i) to have contingent closure plans. The plan must be su mitted with the permit application, i accordance with § 270.14(b)(13) of thi chapter, and approved by the Regional Administrator as part of the permit is suance procedures under Part 124 o this chapter. In accordance wit § 270.32 of this chapter, the approve closure plan will become a condition o any RCRA permit.

(2) The Director's approval of th plan must ensure that the approve closure plan is consistent wit §§ 264.111 through 264.115 and the ap plicable requirements of §§ 264.90 e *seq.*, 264.178, 264.197, 264.228, 264.25 264.280, 264.310, 264.351, and 264.60 Until final clsoure is completed an certified in accordance with § 264.11 a copy of the approved plan and a approved revisions must be furnishe to the Director upon request, includ ing request by mail.

(b) *Content of plan.* The plan mus identify steps necessary to perform partial and/or final closure of the fa cility at any point during its activ life. The closure plan must include, a least:

(1) A description of how each ha ardous waste management unit at th facility will be closed in accordanc with § 264.111;

(2) A description of how final closur of the facility will be conducted in ac cordance with § 264.111. The descrip tion must identify the maximu extent of the operations which will b unclosed during the active life of th facility; and

(3) An estimate of the maximum in ventory of hazardous wastes ever o site over the active life of the facilit and a detailed description of the meth ods to be used during partial closur and final closure, including, but n limited to, methods for removin transporting, treating, storing, or di posing of all hazardous wastes, an identification of the type(s) of the of site hazardous waste manageme units to be used, if applicable; and

(4) A detailed description of th steps needed to remove or decontam nate all hazardous waste residues an contaminated containment syste components, equipment, structur and soils during partial and final cl sure, including, but not limited to, pr

cedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination required to satisfy the closure performance standard; and

(5) A detailed description of other activities necessary during the closure period to ensure that all partial closures and final closure satisfy the closure performance standards, including, but not limited to, ground-water monitoring, leachate collection, and run-on and run-off control; and

(6) A schedule for closure of each hazardous waste management unit and for final closure of the facility. The schedule must include, at a minimum, the total time required to close each hazardous waste management unit and the time required for intervening closure activities which will allow tracking of the progress of partial and final closure. (For example, in the case of a landfill unit, estimates of the time required to treat or dispose of all hazardous waste inventory and of the time required to place a final cover must be included.)

(7) For facilities that use trust funds to establish financial assurance under § 264.143 or § 264.145 and that are expected to close prior to the expiration of the permit, an estimate of the expected year of final closure.

(c) *Amendment of plan.* The owner or operator must submit a written notification of or request for a permit modification to authorize a change in operating plans, facility design, or the approved closure plan in accordance with the applicable procedures in Parts 124 and 270. The written notification or request must include a copy of the amended closure plan for review or approval by the Regional Administrator.

(1) The owner or operator may submit a written notification or request to the Regional Administrator for a permit modification to amend the closure plan at any time prior to the notification of partial or final closure of the facility.

(2) The owner or operator must submit a written notification of or request for a permit modification to authorize a change in the approved closure plan whenever:

(i) Changes in operating plans or facility design affect the closure plan, or

(ii) There is a change in the expected year of closure, if applicable, or

(iii) In conducting partial or final closure activities, unexpected events require a modification of the approved closure plan.

(3) The owner or operator must submit a written request for a permit modification including a copy of the amended closure plan for approval at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the closure plan. If an unexpected event occurs during the partial or final closure period, the owner or operator must request a permit modification no later than 30 days after the unexpected event. An owner or operator of a surface impoundment or waste pile that intends to remove all hazardous waste at closure and is not otherwise required to prepare a contingent closure plan under § 264.228(c)(1)(i) or § 264.258(c)(1)(i), must submit an amended closure plan to the Regional Administrator no later than 60 days from the date that the owner or operator or Regional Administrator determines that the hazardous waste management unit must be closed as a landfill, subject to the requirements of § 264.310, or no later than 30 days from that date if the determination is made during partial or final closure. The Regional Administrator will approve, disapprove, or modify this amended plan in accordance with the procedures in Parts 124 and 270. In accordance with § 270.32 of this chapter, the approved closure plan will become a condition of any RCRA permit issued.

(4) The Regional Administrator may request modifications to the plan under the conditions described in § 264.112(c)(2). The owner or operator must submit the modified plan within 60 days of the Regional Administrator's request, or within 30 days if the change in facility conditions occurs during partial or final closure. Any modifications requested by the Regional Administrator will be approved

in accordance with the procedures in Parts 124 and 270.

(d) *Notification of partial closure and final closure.* (1) The owner or operator must notify the Regional Administrator in writing at least 60 days prior to the date on which he expects to begin closure of a surface impoundment, waste pile, land treatment or landfill unit, or final closure of a facility with such a unit. The owner or operator must notify the Regional Administrator in writing at least 45 days prior to the date on which he expects to begin final closure of a facility with only treatment or storage tanks, container storage, or incinerator units to be closed.

(2) The date when he "expects to begin closure" must be either:

(i) No later than 30 days after the date on which any hazardous waste management unit receives the known final volume of hazardous wastes, or if there is a reasonable possibility that the hazardous waste management unit will receive additional hazardous wastes, no later than one year after the date on which the unit received the most recent volume of hazardous wastes. If the owner or operator of a hazardous waste management unit can demonstrate to the Regional Administrator that the hazardous waste management unit or facility has the capacity to receive additional hazardous wastes and he has taken all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements, the Regional Administrator may approve an extension to this one-year limit; or

(ii) For units meeting the requirements of § 264.113(d), no later than 30 days after the date on which the hazardous waste management unit receives the known final volume of non-hazardous wastes, or if there is a reasonable possibility that the hazardous waste management unit will receive additional non-hazardous wastes, no later than one year after the date on which the unit received the most recent volume of non-hazardous wastes. If the owner or operator can demonstrate to the Regional Administrator that the hazardous waste management unit has the capacity to receive additional non-hazardous wast and he has taken, and will continue take, all steps to prevent threats human health and the environmen including compliance with all applic ble permit requirements, the Region Administrator may approve an exte sion to this one-year limit.

(3) If the facility's permit is term nated, or if the facility is otherwise dered, by judicial decree or final ord under section 3008 of RCRA, to cea receiving hazardous wastes or to clo then the requirements of this par graph do not apply. However, t owner or operator must close the fac ity in accordance with the deadlin established in § 264.113.

(e) *Removal of wastes and deco tamination or dismantling of equi ment.* Nothing in this section sha preclude the owner or operator fro removing hazardous wastes and deco taminating or dismantling equipme in accordance with the approved pa tial or final closure plan at any ti before or after notification of parti or final closure.

[51 FR 16444, May 2, 1986, as amended at FR 46963, Dec. 10, 1987; 53 FR 37935, Sep 28, 1988; 54 FR 33394, Aug. 14, 1989]

§ 264.113 Closure: time allowed for c sure.

(a) Within 90 days after receivin the final volume of hazardous waste or the final volume of non-hazardo wastes if the owner or operator com plies with all applicable requireme in paragraphs (d) and (e) of this se tion, at a hazardous waste manag ment unit or facility, the owner or o erator must treat, remove from th unit or facility, or dispose of on-sit all hazardous wastes in accordanc with the approved closure plan. Th Regional Administrator may approve longer period if the owner or operato complies with all applicable requir ments for requesting a modification t the permit and demonstrates that:

(1)(i) The activities required t comply with this paragraph will, of n cessity, take longer than 90 days t complete; or

(ii)(A) The hazardous waste manag ment unit or facility has the capacit to receive additional hazardous waste or has the capacity to receive non-hazardous wastes if the owner or operator complies with paragraphs (d) and (e) of this section; and

(B) There is a reasonable likelihood that he or another person will recommence operation of the hazardous waste management unit or the facility within one year; and

(C) Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site; and

(2) He has taken and will continue to take all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements.

(b) The owner or operator must complete partial and final closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of hazardous wastes, or the final volume of nonhazardous wastes if the owner or operator complies with all applicable requirements in paragraphs (d) and (e) of this section, at the hazardous waste management unit or facility. The Regional Administrator may approve an extension to the closure period if the owner or operator complies with all applicable requirements for requesting a modification to the permit and demonstrates that:

(1)(i) The partial or final closure activities will, of necessity, take longer than 180 days to complete; or

(ii)(A) The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes, or has the capacity to receive non-hazardous wastes if the owner or operator complies with paragraphs (d) and (e) of this section; and

(B) There is reasonable likelihood that he or another person will recommence operation of the hazardous waste management unit or the facility within one year; and

(C) Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site; and

(2) He has taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed but not operating hazardous waste management unit or facility, including compliance with all applicable permit requirements.

(c) The demonstrations referred to in paragraphs (a)(1) and (b)(1) of this section must be made as follows:

(1) The demonstrations in paragraph (a)(1) of this section must be made at least 30 days prior to the expiration of the 90-day period in paragraph (a) of this section; and

(2) The demonstration in paragraph (b)(1) of this section must be made at least 30 days prior to the expiration of the 180-day period in paragraph (b) of this section, unless the owner or operator is otherwise subject to the deadlines in paragraph (d) of this section.

(d) The Regional Administrator may allow an owner or operator to receive only non-hazardous wastes in a landfill, land treatment, or surface impoundment unit after the final receipt of hazardous wastes at that unit if:

(1) The owner or operator requests a permit modification in compliance with all applicable requirements in parts 270 and 124 of this title and in the permit modification request demonstrates that:

(i) The unit has the existing design capacity as indicated on the part A application to receive non-hazardous wastes; and

(ii) There is a reasonable likelihood that the owner or operator or another person will receive non-hazardous wastes in the unit within one year after the final receipt of hazardous wastes; and

(iii) The non-hazardous wastes will not be incompatible with any remaining wastes in the unit, or with the facility design and operating requirements of the unit or facility under this part; and

(iv) Closure of the hazardous waste management unit would be incompatible with continued operation of the unit or facility; and

(v) The owner or operator is operating and will continue to operate in compliance with all applicable permit requirements; and

(2) The request to modify the permit includes an amended waste analysis plan, ground-water monitoring and response program, human exposure assessment required under RCRA section 3019, and closure and post-closure

plans, and updated cost estimates and demonstrations of financial assurance for closure and post-closure care as necessary and appropriate, to reflect any changes due to the presence of hazardous constituents in the non-hazardous wastes, and changes in closure activities, including the expected year of closure if applicable under § 264.112(b)(7), as a result of the receipt of non-hazardous wastes following the final receipt of hazardous wastes; and

(3) The request to modify the permit includes revisions, as necessary and appropriate, to affected conditions of the permit to account for the receipt of non-hazardous wastes following receipt of the final volume of hazardous wastes; and

(4) The request to modify the permit and the demonstrations referred to in paragraphs (d)(1) and (d)(2) of this section are submitted to the Regional Administrator no later than 120 days prior to the date on which the owner or operator of the facility receives the known final volume of hazardous wastes at the unit, or no later than 90 days after the effective date of this rule in the state in which the unit is located, whichever is later.

(e) In addition to the requirements in paragraph (d) of this section, an owner or operator of a hazardous waste surface impoundment that is not in compliance with the liner and leachate collection system requirements in 42 U.S.C. 3004(o)(1) and 3005(j)(1) or 42 U.S.C. 3004(o) (2) or (3) or 3005(j) (2), (3), (4) or (13) must:

(1) Submit with the request to modify the permit:

(i) A contingent corrective measures plan, unless a corrective action plan has already been submitted under § 264.99; and

(ii) A plan for removing hazardous wastes in compliance with paragraph (e)(2) of this section; and

(2) Remove all hazardous wastes from the unit by removing all hazardous liquids, and removing all hazardous sludges to the extent practicable without impairing the integrity of the liner(s), if any.

(3) Removal of hazardous wastes must be completed no later than 90 days after the final receipt of hazardous wastes. The Regional Administrator may approve an extension to this deadline if the owner or operator demonstrates that the removal of hazardous wastes will, of necessity, take longer than the allotted period to complete and that an extension will not pose a threat to human health and the environment.

(4) If a release that is a statistically significant increase (or decrease in the case of pH) over background values for detection monitoring parameters or constituents specified in the permit or that exceeds the facility's ground-water protection standard at the point of compliance, if applicable, is detected in accordance with the requirements in subpart F of this part, the owner or operator of the unit:

(i) Must implement corrective measures in accordance with the approved contingent corrective measures plan required by paragraph (e)(1) of this section no later than one year after detection of the release, or approval of the contingent corrective measures plan, whichever is later;

(ii) May continue to receive wastes at the unit following detection of the release only if the approved corrective measures plan includes a demonstration that continued receipt of wastes will not impede corrective action; and

(iii) May be required by the Regional Administrator to implement corrective measures in less than one year or to cease the receipt of wastes until corrective measures have been implemented if necessary to protect human health and the environment.

(5) During the period of corrective action, the owner or operator shall provide semi-annual reports to the Regional Administrator that describe the progress of the corrective action program, compile all ground-water monitoring data, and evaluate the effect of the continued receipt of non-hazardous wastes on the effectiveness of the corrective action.

(6) The Regional Administrator may require the owner or operator to commence closure of the unit if the owner or operator fails to implement corrective action measures in accordance with the approved contingent corrective measures plan within one year as required in paragraph (e)(4) of this

section, or fails to make substantial progress in implementing corrective action and achieving the facility's ground-water protection standard or background levels if the facility has not yet established a ground-water protection standard.

(7) If the owner or operator fails to implement corrective measures as required in paragraph (e)(4) of this section, or if the Regional Administrator determines that substantial progress has not been made pursuant to paragraph (e)(6) of this section he shall:

(i) Notify the owner or operator in writing that the owner or operator must begin closure in accordance with the deadlines in paragraphs (a) and (b) of this section and provide a detailed statement of reasons for this determination, and

(ii) Provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments on the decision no later than 20 days after the date of the notice.

(iii) If the Regional Administrator receives no written comments, the decision will become final five days after the close of the comment period. The Regional Administrator will notify the owner or operator that the decision is final, and that a revised closure plan, if necessary, must be submitted within 15 days of the final notice and that closure must begin in accordance with the deadlines in paragraphs (a) and (b) of this section.

(iv) If the Regional Administrator receives written comments on the decision, he shall make a final decision within 30 days after the end of the comment period, and provide the owner or operator in writing and the public through a newspaper notice, a detailed statement of reasons for the final decision. If the Regional Administrator determines that substantial progress has not been made, closure must be initiated in accordance with the deadlines in paragraphs (a) and (b) of this section.

(v) The final determinations made by the Regional Administrator under paragraphs (e)(7) (iii) and (iv) of this section are not subject to administrative appeal.

[51 FR 16444, May 2, 1986, as amended at 54 FR 33394, Aug. 14, 1989]

§ 264.114 Disposal or decontamination of equipment, structures and soils.

During the partial and final closure periods, all contaminated equipment, structures and soils must be properly disposed of or decontaminated unless otherwise specified in §§ 264.197, 264.228, 264.258, 264.280 or § 264.310. By removing any hazardous wastes or hazardous constituents during partial and final closure, the owner or operator may become a generator of hazardous waste and must handle that waste in accordance with all applicable requirements of Part 262 of this chapter.

[51 FR 16444, May 2, 1986, as amended at 52 FR 46963, Dec. 10, 1987; 53 FR 34086, Sept. 2, 1988]

§ 264.115 Certification of closure.

Within 60 days of completion of closure of each hazardous waste surface impoundment, waste pile, land treatment, and landfill unit, and within 60 days of the completion of final closure, the owner or operator must submit to the Regional Administrator, by registered mail, a certification that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved closure plan. The certification must be signed by the owner or operator and by an independent registered professional engineer. Documentation supporting the independent registered professional engineer's certification must be furnished to the Regional Administrator upon request until he releases the owner or operator from the financial assurance requirements for closure under § 264.143(i).

§ 264.116 Survey plat.

No later than the submission of the certification of closure of each hazardous waste disposal unit, the owner or operator must submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Regional Administrator, a survey plat indicating the location and dimensions of landfills cells or other hazardous waste disposal units with

best copy available

respect to permanently surveyed benchmarks. This plat must be prepared and certified by a professional land surveyor. The plat filed with the local zoning authority, or the authority with jurisdiction over local land use, must contain a note, prominently displayed, which states the owner's or operator's obligation to restrict disturbance of the hazardous waste disposal unit in accordance with the applicable Subpart G regulations.

§ 264.117 Post-closure care and use of property.

(a)(1) Post-closure care for each hazardous waste management unit subject to the requirements of §§ 264.117 through 264.120 must begin after completion of closure of the unit and continue for 30 years after that date and must consist of at least the following:

(i) Monitoring and reporting in accordance with the requirements of Subparts F, K, L, M, N, and X of this part; and

(ii) Maintenance and monitoring of waste containment systems in accordance with the requirements of Subparts F, K, L, M, N, and X of this part.

(2) Any time preceding partial closure of a hazardous waste management unit subject to post-closure care requirements or final closure, or any time during the post-closure period for a particular unit, the Regional Administrator may, in accordance with the permit modification procedures in Parts 124 and 270:

(i) Shorten the post-closure care period applicable to the hazardous waste management unit, or facility, if all disposal units have been closed, if he finds that the reduced period is sufficient to protect human health and the environment (e.g., leachate or ground-water monitoring results, characteristics of the hazardous wastes, application of advanced technology, or alternative disposal, treatment, or re-use techniques indicate that the hazardous waste management unit or facility is secure); or

(ii) Extend the post-closure care period applicable to the hazardous waste management unit or facility if he finds that the extended period is necessary to protect human health and the environment (e.g., leachate or ground-water monitoring results indicate a potential for migration of hazardous wastes at levels which may be harmful to human health and the environment).

(b) The Regional Administrator may require, at partial and final closure, continuation of any of the security requirements of § 264.14 during part or all of the post-closure period when:

(1) Hazardous wastes may remain exposed after completion of partial or final closure; or

(2) Access by the public or domestic livestock may pose a hazard to human health.

(c) Post-closure use of property on or in which hazardous wastes remain after partial or final closure must never be allowed to disturb the integrity of the final cover, liner(s), or any other components of the containment system, or the function of the facility's monitoring systems, unless the Regional Administrator finds that the disturbance:

(1) Is necessary to the proposed use of the property, and will not increase the potential hazard to human health or the environment; or

(2) Is necessary to reduce a threat to human health or the environment.

(d) All post-closure care activities must be in accordance with the provisions of the approved post-closure plan as specified in § 264.118.

[51 FR 16444, May 2, 1986, as amended at 52 FR 46963, Dec. 10, 1987]

§ 264.118 Post-closure plan; amendment of plan.

(a) *Written Plan.* The owner or operator of a hazardous waste disposal unit must have a written post-closure plan. In addition, certain surface impoundments and waste piles from which the owner or operator intends to remove or decontaminate the hazardous wastes at partial or final closure are required by §§ 264.228(c)(1)(ii) and 264.258(c)(1)(ii) to have contingent post-closure plans. Owners or operators of surface impoundments and waste piles not otherwise required to prepare contingent post-closure plans under §§ 264.228(c)(1)(ii) and 264.258(c)(1)(ii) must submit a post-closure plan to the Regional Administrator within 90 days from the date that the owner or operator or Regional administrator determines that the hazardous waste management unit must be closed as a landfill, subject to the requirements of §§ 264.117 through 264.120. The plan must be submitted with the permit application, in accordance with § 270.14(b)(13) of this chapter, and approved by the Regional Administrator as part of the permit issuance procedures under Part 124 of this chapter. In accordance with § 270.32 of this chapter, the approved post-closure plan will become a condition of any RCRA permit issued.

(b) For each hazardous waste management unit subject to the requirements of this section, the post-closure plan must identify the activities that will be carried on after closure of each disposal unit and the frequency of these activities, and include at least:

(1) A description of the planned monitoring activities and frequencies at which they will be performed to comply with Subparts F, K, L, M, N, and X of this part during the post-closure care period; and

(2) A description of the planned maintenance activities, and frequencies at which they will be performed, to ensure:

(i) The integrity of the cap and final cover or other containment systems in accordance with the requirements of Subparts F, K, L, M, N, and X of this part; and

(ii) The function of the monitoring equipment in accordance with the requirements of Subparts, F, K, L, M, N, and X of this part; and

(3) The name, address, and phone number of the person or office to contact about the hazardous waste disposal unit or facility during the post-closure care period.

(c) Until final closure of the facility, a copy of the approved post-closure plan must be furnished to the Regional Administrator upon request, including request by mail. After final closure has been certified, the person or office specified in § 264.188(b)(3) must keep the approved post-closure plan during the remainder of the post-closure period.

(d) *Amendment of plan.* The owner or operator must submit a written notification of or request for a permit modification to authorize a change in the approved post-closure plan in accordance with the applicable requirements in Parts 124 and 270. The written notification or request must include a copy of the amended post-closure plan for review or approval by the Regional Administrator.

(1) The owner or operator may submit a written notification or request to the Regional Administrator for a permit modification to amend the post-closure plan at any time during the active life of the facility or during the post-closure care period.

(2) The owner or operator must submit a written notification of or request for a permit modification to authorize a change in the approved post-closure plan whenever:

(i) Changes in operating plans or facility design affect the approved post-closure plan, or

(ii) There is a change in the expected year of final closure, if applicable, or

(iii) Events which occur during the active life of the facility, including partial and final closures, affect the approved post-closure plan.

(3) The owner or operator must submit a written request for a permit modification at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the post-closure plan. An owner or operator of a surface impoundment or waste pile that intends to remove all hazardous waste at closure and is not otherwise required to submit a contingent post-closure plan under §§ 264.228(c)(1)(ii) and 264.258(c)(1)(ii) must submit a post-closure plan to the Regional Administrator no later than 90 days after the date that the owner or operator or Regional Administrator determines that the hazardous waste management unit must be closed as a landfill, subject to the requirements of § 264.310. The Regional Administrator will approve, disapprove or modify this plan in accordance with the procedures in Parts 124 and 270. In accordance with § 270.32 of this chapter, the approved post-closure plan will become a permit condition.

(4) The Regional Administrator may request modifications to the plan under the conditions described in § 264.118(d)(2). The owner or operator must submit the modified plan no later than 60 days after the Regional Administrator's request, or no later than 90 days if the unit is a surface impoundment or waste pile not previously required to prepare a contingent post-closure plan. Any modifications requested by the Regional Administrator will be approved, disapproved, or modified in accordance with the procedures in Parts 124 and 270.

[51 FR 16444, May 2, 1986, as amended at 52 FR 46964, Dec. 10, 1987; 53 FR 37935, Sept. 28, 1988]

§ 264.119 Post-closure notices.

(a) No later than 60 days after certification of closure of each hazardous waste disposal unit, the owner or operator must submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Regional Administrator a record of the type, location, and quantity of hazardous wastes disposed of within each cell or other disposal unit of the facility. For hazardous wastes disposed of before January 12, 1981, the owner or operator must identify the type, location, and quantity of the hazardous wastes to the best of his knowledge and in accordance with any records he has kept.

(b) Within 60 days of certification of closure of the first hazardous waste disposal unit and within 60 days of certification of closure of the last hazardous waste disposal unit, the owner or operator must:

(1) Record, in accordance with State law, a notation on the deed to the facility property—or on some other instrument which is normally examined during title search—that will in perpetuity notify any potential purchaser of the property that:

(i) The land has been used to manage hazardous wastes; and

(ii) Its use is restricted under 40 CFR Subpart G regulations; and

(iii) The survey plat and record of the type, location, and quantity of hazardous wastes disposed of within each cell or other hazardous waste disposal unit of the facility required by §§ 264.116 and 264.119(a) have been filed with the local zoning authority or the authority with jurisdiction over local land use and with the Regional Administrator; and

(2) Submit a certification, signed by the owner or operator, that he has recorded the notation specified in paragraph (b)(1) of this section, including a copy of the document in which the notation has been placed, to the Regional Administrator.

(c) If the owner or operator or any subsequent owner or operator of the land upon which a hazardous waste disposal unit is located wishes to remove hazardous wastes and hazardous waste residues, the liner, if any, or contaminated soils, he must request a modification to the post-closure permit in accordance with the applicable requirements in Parts 124 and 270. The owner or operator must demonstrate that the removal of hazardous wastes will satisfy the criteria of § 264.117(c). By removing hazardous waste, the owner or operator may become a generator of hazardous waste and must manage it in accordance with all applicable requirements of this chapter. If he is granted a permit modification or otherwise granted approval to conduct such removal activities, the owner or operator may request that the Regional Administrator approve either:

(1) The removal of the notation on the deed to the facility property or other instrument normally examined during title search; or

(2) The addition of a notation to the deed or instrument indicating the removal of the hazardous waste.

§ 264.120 Certification of completion of post-closure care.

No later than 60 days after completion of the established post-closure care period for each hazardous waste disposal unit, the owner or operator must submit to the Regional Administrator, by registered mail, a certification that the post-closure care period for the hazardous waste disposal unit was performed in accordance with the specifications in the approved post-closure plan. The certification must be signed by the owner or operator and an independent registered professional engineer. Documentation supporting the independent registered professional engineer's certification must be furnished to the Regional Administrator upon request until he releases the owner or operator from the financial assurance requirements for post-closure care under § 264.145(i).

(The information collection requirements in Subpart G are approved by the Office of Management and Budget under control number 2050-0008)

Subpart H—Financial Requirements

SOURCE: 47 FR 15047, Apr. 7, 1982, unless otherwise noted.

§ 264.140 Applicability.

(a) The requirements of §§ 264.142, 264.143, and 264.147 through 264.151 apply to owners and operators of all hazardous waste facilities, except as provided otherwise in this section or in § 264.1.

(b) The requirements of §§ 264.144 and 264.145 apply only to owners and operators of:

(1) Disposal facilities, and

(2) Piles, and surface impoundments from which the owner or operator intends to remove the wastes at closure, to the extent that these sections are made applicable to such facilities in §§ 264.228 and 264.258.

(3) Tank systems that are required under § 264.197 to meet the requirements for landfills.

(c) States and the Federal government are exempt from the requirements of this subpart.

[47 FR 15047, Apr. 7, 1982, as amended at 47 FR 32357, July 26, 1982; 51 FR 25472, July 14, 1986]

§ 264.141 Definitions of terms as used in this subpart.

(a) "*Closure plan*" means the plan for closure prepared in accordance with the requirements of § 264.112.

(b) "*Current closure cost estimate*" means the most recent of the estimates prepared in accordance with § 264.142 (a), (b), and (c).

(c) "*Current post-closure cost estimate*" means the most recent of the estimates prepared in accordance with § 264.144 (a), (b), and (c).

(d) "*Parent corporation*" means a corporation which directly owns at least 50 percent of the voting stock of the corporation which is the facility owner or operator; the latter corporation is deemed a "subsidiary" of the parent corporation.

(e) "*Post-closure plan*" means the plan for post-closure care prepared in accordance with the requirements of §§ 264.117 through 264.120.

(f) The following terms are used in the specifications for the financial tests for closure, post-closure care, and liability coverage. The definitions are intended to assist in the understanding of these regulations and are not intended to limit the meanings of terms in a way that conflicts with generally accepted accounting practices.

"*Assets*" means all existing and all probable future economic benefits obtained or controlled by a particular entity.

"*Current assets*" means cash or other assets or resources commonly identified as those which are reasonably expected to be realized in cash or sold or consumed during the normal operating cycle of the business.

"*Current liabilities*" means obligations whose liquidation is reasonably expected to require the use of existing resources properly classifiable as current assets or the creation of other current liabilities.

"*Current plugging and abandonment cost estimate*" means the most recent of the estimates prepared in accordance with § 144.62(a), (b), and (c) of this title.

"*Independently audited*" refers to an audit performed by an independent certified public accountant in accordance with generally accepted auditing standards.

"*Liabilities*" means probable future sacrifices of economic benefits arising from present obligations to transfer assets or provide services to other entities in the future as a result of past transactions or events.

"*Net working capital*" means current assets minus current liabilities.

"*Net worth*" means total assets minus total liabilities and is equivalent to owner's equity.

"*Tangible net worth*" means the tangible assets that remain after deducting liabilities; such assets would not include intangibles such as goodwill and rights to patents or royalties.

(g) In the liability insurance requirements the terms "*bodily injury*" and "*property damage*" shall have the meanings given these terms by applicable State law. However, these terms do not include those liabilities which, consistent with standard industry practices, are excluded from coverage in liability policies for bodily injury and property damage. The Agency intends the meanings of other terms used in the liability insurance requirements to be consistent with their common meanings within the insurance industry. The definitions given below of several of the terms are intended to assist in the understanding of these regulations and are not intended to limit their meanings in a way that conflicts with general insurance industry usage.

"*Accidental occurrence*" means an accident, including continuous or repeated exposure to conditions, which results in bodily injury or property damage neither expected nor intended from the standpoint of the insured.

"*Legal defense costs*" means any expenses that an insurer incurs in defending against claims of third parties brought under the terms and conditions of an insurance policy.

"*Nonsudden accidental occurrence*" means an occurrence which takes place over time and involves continuous or repeated exposure.

"*Sudden accidental occurrence*" means an occurrence which is not continuous or repeated in nature.

(h) "*Substantial business relationship*" means the extent of a business relationship necessary under applicable State law to make a guarantee contract issued incident to that relationship valid and enforceable. A "substantial business relationship" must arise from a pattern of recent or ongoing business transactions, in addition to the guarantee itself, such that a currently existing business relationship between the guarantor and the owner or operator is demonstrated to the satisfaction of the applicable EPA Regional Administrator.

[47 FR 16554, Apr. 16, 1982, as amended at 51 FR 16447, May 2, 1986; 53 FR 33950, Sept. 1, 1988]

§ 264.142 Cost estimate for closure.

(a) The owner or operator must have a detailed written estimate, in current dollars, of the cost of closing the facility in accordance with the requirements in §§ 264.111 through 264.115 and applicable closure requirements in §§ 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351, and 264.601 through 264.603.

(1) The estimate must equal the cost of final closure at the point in the facility's active life when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan (see § 264.112(b)); and

(2) The closure cost estimate must be based on the costs to the owner or operator of hiring a third party to close the facility. A third party is a party who is neither a parent nor a subsidiary of the owner or operator. (See definition of parent corporation in § 264.141(d).) The owner or operator may use costs for on-site disposal if he can demonstrate that on-site disposal capacity will exist at all times over the life of the facility.

(3) The closure cost estimate may not incorporate any salvage value that may be realized with the sale of hazardous wastes, or non-hazardous wastes if applicable under § 264.113(d), facility structures or equipment, land, or other assets associated with the facility at the time of partial or final closure.

(4) The owner or operator may not incorporate a zero cost for hazardous wastes, or non-hazardous wastes if applicable under § 264.113(d), that might have economic value.

(b) During the active life of the facility, the owner or operator must adjust the closure cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with § 264.143. For owners and operators using the financial test or corporate guarantee, the closure cost estimate must be updated for inflation within 30 days after the close of the firm's fiscal year and before submission of updated information to the Regional Administrator as specified in § 264.143(f)(3). The adjustment may be made by recalculating the maximum costs of closure in current dollars, or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its *Survey of Current Business*, as specified in paragraphs (b)(1) and (2) of this section. The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

(1) The first adjustment is made by multiplying the closure cost estimate by the inflation factor. The result is the adjusted closure cost estimate.

(2) Subsequent adjustments are made by mutliplying the lastest adjusted closure cost estimate by the latest inflation factor.

(c) During the active life of the facility, the owner or operator must revise the closure cost estimate no later than 30 days after the Regional Administrator has approved the request to modify the closure plan, if the change in the closure plan increases the cost of closure. The revised closure cost estimate must be adjusted for inflation as specified in § 264.142(b).

(d) The owner or operator must keep the following at the facility during the operating life of the facility: The latest closure cost estimate prepared in accordance with § 264.142 (a) and (c) and, when this estimate has been adjusted in accordance with § 264.142(b), the latest adjusted closure cost estimate.

(Approved by the Office of Management and Budget under control number 2050-0036)

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§ 264.143 Financial assurance for closure.

An owner or operator of each facility must establish financial assurance for closure of the facility. He must choose from the options as specified in paragraphs (a) through (f) of this section.

(a) *Closure trust fund.* (1) An owner or operator may satisfy the requirements of this section by establishing a closure trust fund which conforms to the requirements of this paragraph and submitting an originally signed duplicate of the trust agreement to the Regional Administrator. An owner or operator of a new facility must submit the originally signed duplicate of the trust agreement to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(2) The wording of the trust agreement must be identical to the wording specified in § 264.151(a)(1), and the trust agreement must be accompanied by a formal certification of acknowledgment (for example, see § 264.151(a)(2)). Schedule A of the trust agreement must be updated within 60 days after a change in the amount of the current closure cost estimate covered by the agreement.

(3) Payments into the trust fund must be made annually by the owner or operator over the term of the initial RCRA permit or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the "pay-in period." The payments into the closure trust fund must be made as follows:

(i) For a new facility, the first payment must be made before the initial receipt of hazardous waste for treatment, storage, or disposal. A receipt from the trustee for this payment must be submitted by the owner or operator to the Regional Administrator before this initial receipt of hazardous waste. The first payment must be at least equal to the current closure cost estimate, except as provided in § 264.143(g), divided by the number of years in the pay-in period. Subsequent payments must be made no later than 30 days after each anniversary date of the first payment. The amount of each subsequent payment must be determined by this formula:

$$\text{Next payment} = \frac{CE-CV}{Y}$$

where CE is the current closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(ii) If an owner or operator establishes a trust fund as specified in § 265.143(a) of this chapter, and the value of that trust fund is less than the current closure cost estimate when a permit is awarded for the facility, the amount of the current closure cost estimate still to be paid into the trust fund must be paid in over the pay-in period as defined in paragraph (a)(3) of this section. Payments must continue to be made no later than 30 days after each anniversary date of the first payment made pursuant to Part 265 of this chapter. The amount of each payment must be determined by this formula:

$$\text{Next payment} = \frac{CE-CV}{Y}$$

where CE is the current closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(4) The owner or operator may accelerate payments into the trust fund or he may deposit the full amount of the current closure cost estimate at the time the fund is established. However, he must maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in paragraph (a)(3) of this section.

(5) If the owner or operator establishes a closure trust fund after having used one or more alternate mechanisms specified in this section or in § 265.143 of this chapter, his first payment must be in at least the amount that the fund would contain if the trust fund were established initially and annual payments made according to specifications of this paragraph and § 265.143(a) of this chapter, as applicable.

(6) After the pay-in period is completed, whenever the current closure cost estimate changes, the owner or operator must compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, must either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current closure cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(7) If the value of the trust fund is greater than the total amount of the current closure cost estimate, the owner or operator may submit a written request to the Regional Administrator for release of the amount in excess of the current closure cost estimate.

(8) If an owner or operator substitutes other financial assurance as specified in this section for all or part of the trust fund, he may submit a written request to the Regional Administrator for release of the amount in excess of the current closure cost estimate covered by the trust fund.

(9) Within 60 days after receiving a request from the owner or operator for release of funds as specified in paragraph (a) (7) or (8) of this section, the Regional Administrator will instruct the trustee to release to the owner or operator such funds as the Regional Administrator specifies in writing.

(10) After beginning partial or final closure, an owner or operator or another person authorized to conduct partial or final closure may request reimbursements for partial or final closure expenditures by submitting itemized bills to the Regional Administrator. The owner or operator may request reimbursements for partial closure only if sufficient funds are remaining in the trust fund to cover the maximum costs of closing the facility over its remaining operating life. Within 60 days after receiving bills for partial or final closure activities, the Regional Administrator will instruct the trustee to make reimbursements in those amounts as the Regional Administrator specifies in writing, if the Regional Administrator determines that

the partial or final closure expenditures are in accordance with the approved closure plan, or otherwise justified. If the Regional Administrator has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the value of the trust fund, he may withhold reimbursements of such amounts as he deems prudent until he determines, in accordance with § 264.143(i) that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the Regional Administrator does not instruct the trustee to make such reimbursements, he will provide the owner or operator with a detailed written statement of reasons.

(11) The Regional Administrator will agree to termination of the trust when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.143(i).

(b) *Surety bond guaranteeing payment into a closure trust fund.* (1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this paragraph and submitting the bond to the Regional Administrator. An owner or operator of a new facility must submit the bond to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The wording of the surety bond must be identical to the wording specified in § 264.151(b).

(3) The owner or operator who uses a surety bond to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Regional Administrator. This standby trust fund must meet the requirements specified in § 264.143(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Regional Administrator with the surety bond; and

(ii) Until the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in § 264.143(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that the owner or operator will:

(i) Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or

(ii) Fund the standby trust fund in an amount equal to the penal sum within 15 days after an administrative order to begin final closure issued by the Regional Administrator becomes final, or within 15 days after an order to begin final closure is issued by a U.S. district court or other court of competent jurisdiction; or

(iii) Provide alternate financial assurance as specified in this section, and obtain the Regional Administrator's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(6) The penal sum of the bond must be in an amount at least equal to the current closure cost estimate, except as provided in § 264.143(g).

(7) Whenever the current closure cost estimate increases to an amount greater then the penal sum, the owner

or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the Regional Administrator.

(8) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Regional Administrator. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Regional Administrator, as evidence by the return receipts.

(9) The owner or operator may cancel the bond if the Regional Administrator has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in this section.

(c) *Surety bond guaranteeing performance of closure.* (1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this paragraph and submitting the bond to the Regional Administrator. An owner or operator of a new facility must submit the bond to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The wording of the surety bond must be identical to the wording specified in § 264.151(c).

(3) The owner or operator who uses a surety bond to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Regional Administrator. This standby trust must meet the requirements specified in § 264.143(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Regional Administrator with the surety bond; and

(ii) Unless the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in § 264.143(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that the owner or operator will:

(i) Perform final closure in accordance with the closure plan and other requirements of the permit for the facility whenever required to do so; or

(ii) Provide alternate financial assurance as specified in this section, and obtain the Regional Administrator's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. Following a final administrative determination pursuant to section 3008 of RCRA that the owner or operator has failed to perform final closure in accordance with the approved closure plan and other permit requirements when required to do so, under the terms of the bond the surety will perform final closure as guaranteed by the bond or will deposit the amount of the penal sum into the standby trust fund.

(6) The penal sum of the bond must be in an amount at least equal to the current closure cost estimate.

(7) Whenever the current closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the Regional Administrator.

(8) Under the terms of the bond, the surety may canel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Regional Administrator. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Regional Administrator, as evidenced by the return receipts.

(9) The owner or operator may cancel the bond if the Regional Administrator has given prior written consent. The Regional Administrator will provide such written consent when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.143(i).

(10) The surety will not be liable for deficiencies in the performance of closure by the owner or operator after the Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.143(i).

(d) *Closure letter of credit.* (1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit which conforms to the requirements of this paragraph and submitting the letter to the Regional Administrator. An owner or operator of a new facility must submit the letter of credit to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The letter of credit must be effective before this initial receipt of hazardous waste. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a Federal or State agency.

(2) The wording of the letter of credit must be identical to the wording specified in § 264.151(d).

(3) An owner or operator who uses a letter of credit to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the Regional Administrator will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the Regional Administrator. This standby trust fund must meet the requirements of the trust fund specified in § 264.143(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Regional Administrator with the letter of credit; and

(ii) Unless the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in § 264.143(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: the EPA Identification Number, name, and address of the facility, and the amount of funds assured for closure of the facility by the letter of credit.

(5) The letter of credit must be irrevocable and issued for a period of at least 1 year. The letter of credit must provide that the expiration date will be automatically extended for a period

of at least 1 year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the Regional Administrator by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the Regional Administrator have received the notice, as evidenced by the return receipts.

(6) The letter of credit must be issued in an amount at least equal to the current closure cost estimate, except as provided in § 264.143(g).

(7) Whenever the current closure cost estimate increases to an amount greater than the amount of the credit, the owner or operator, within 60 days after the increase, must either cause the amount of the credit to be increased so that it at least equals the current closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the amount of the credit may be reduced to the amount of the current closure cost estimate following written approval by the Regional Administrator.

(8) Following a final administrative determination pursuant to section 3008 of RCRA that the owner or operator has failed to perform final closure in accordance with the closure plan and other permit requirements when required to do so, the Regional Administrator may draw on the letter of credit.

(9) If the owner or operator does not establish alternate financial assurance as specified in this section and obtain written approval of such alternate assurance from the Regional Administrator within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice from issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the Regional Administrator will draw on the letter of credit. The Regional Administrator may delay the drawing if the issuing institution grants an extension of the term of the credi During the last 30 days of any suc extension the Regional Administrato will draw on the letter of credit if th owner or operator has failed to provide alternate financial assurance a specified in this section and obtai written approval of such assuranc from the Regional Administrator.

(10) The Regional Administrator wi return the letter of credit to the issuing institution for termination when:

(i) An owner or operator substitute alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from th requirements of this section in accordance with § 264.143(i).

(e) *Closure insurance.* (1) An owne or operator may satisfy the requirements of this section by obtaining closure insurance which conforms to th requirements of this paragraph an submitting a certificate of such insu ance to the Regional Administrato An owner or operator of a new facilit must submit the certificate of insurance to the Regional Administrator a least 60 days before the date on whic hazardous waste is first received fo treatment, storage, or disposal. The insurance must be effective before th initial receipt of hazardous waste. At minimum, the insurer must be license to transact the business of insuranc or eligible to provide insurance as a excess or suplus lines insurer, in on or more States.

(2) The wording of the certificate o insurance must be identical to th wording specified in § 264.151(e).

(3) The closure insurance poli must be issued for a face amount a least equal to the current closure co estimate, except as provided i § 264.143(g). The term "face amount means the total amount the insurer obligated to pay under the polic Actual payments by the insurer wi not change the face amount, althoug the insurer's future liability will b lowered by the amount of the payments.

(4) The closure insurance polic must guarantee that funds will b available to close the facility wheneve final closure occurs. The policy mu also guarantee that once final closur

begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the Regional Administrator, to such party or parties as the Regional Administrator specifies.

(5) After beginning partial or final closure, an owner or operator or any other person authorized to conduct closure may request reimbursements for closure expenditures by submitting itemized bills to the Regional Administrator. The owner or operator may request reimbursements for partial closure only if the remaining value of the policy is sufficient to cover the maximum costs of closing the facility over its remaining operating life. Within 60 days after receiving bills for closure activities, the Regional Administrator will instruct the insurer to make reimbursements in such amounts as the Regional Administrator specifies in writing, if the Regional Administrator determines that the partial or final closure expenditures are in accordance with the approved closure plan or otherwise justified. If the Regional Administrator has reason to believe that the maximum cost of closure over the remaining life of the facility will be signficantly greater than the face amount of the policy, he may withhold reimbursements of such amounts as he deems prudent until he determines, in accordance with § 264.143(i), that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the Regional Administrator does not instruct the insurer to make such reimbursements, he will provide the owner or operator with a detailed written statement of reasons.

(6) The owner or operator must maintain the policy in full force and effect until the Regional Administrator consents to termination of the policy by the owner or operator as specified in paragraph (e)(10) of this section. Failure to pay the premium, without substitution of alternate financial assurance as specified in this section, will constitute a significant violation of these regulations, warranting such remedy as the Regional Administrator deems necessary. Such violation will be deemed to begin upon receipt by the Regional Adminstrator of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(7) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

(8) The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the Regional Administrator. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the Regional Administrator and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

(i) The Regional Administrator deems the facility abandoned; or

(ii) The permit is terminated or revoked or a new permit is denied; or

(iii) Closure is ordered by the Regional Administrator or a U.S. district court or other court of competent jurisdiction; or

(iv) The owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or

(v) The premium due is paid.

(9) Whenever the current closure cost estimate increases to an amount greater than the face amount of the policy, the owner or operator, within 60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section to cover the increase. When-

ever the current closure cost estimate decreases, the face amount may be reduced to the amount of the current closure cost estimate following written approval by the Regional Administrator.

(10) The Regional Administrator will give written consent to the owner or operator that he may terminate the insurance policy when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.143(i).

(f) *Financial test and corporate guarantee for closure.* (1) An owner or operator may satisfy the requirements of this section by demonstrating that he passes a financial test as specified in this paragraph. To pass this test the owner or operator must meet the criteria of either paragraph (f)(1)(i) or (ii) of this section:

(i) The owner or operator must have:

(A) Two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

(B) Net working capital and tangible net worth each at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least $10 million; and

(D) Assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

(ii) The owner or operator must have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's; and

(B) Tangible net worth at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least $10 million; and

(D) Assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

(2) The phrase "current closure and post-closure cost estimates" as used in paragraph (f)(1) of this section refers to the cost estimates required to be shown in paragraphs 1-4 of the letter from the owner's or operator's chief financial officer (§ 264.151(f)). The phrase "current plugging and abandonment cost estimates" as used in paragraph (f)(1) of this section refers to the cost estimates required to be shown in paragraphs 1-4 of the letter from the owner's or operator's chief financial officer (§ 144.70(f) of this title).

(3) To demonstrate that he meets this test, the owner or operator must submit the following items to the Regional Administrator:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in § 264.151(f); and

(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(iii) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) An owner or operator of a new facility must submit the items specified in paragraph (f)(3) of this section to the Regional Administrator at least 60 days before the date on which haz-

ardous waste is first received for treatment, storage, or disposal.

(5) After the initial submission of items specified in paragraph (f)(3) of this section, the owner or operator must send updated information to the Regional Administrator within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in paragraph (f)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, he must send notice to the Regional Administrator of intent to establish alternate financial assurance as specified in this section. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator must provide the alternate financial assurance within 120 days after the end of such fiscal year.

(7) The Regional Administrator may, based on a reasonable belief that the owner or operator may no longer meet the requirements of paragraph (f)(1) of this section, require reports of financial condition at any time from the owner or operator in addition to those specified in paragraph (f)(3) of this section. If the Regional Administrator finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, the owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of such a finding.

(8) The Regional Administrator may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (f)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Regional Administrator will evaluate other qualifications on an individual basis. The owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of the disallowance.

(9) The owner or operator is no longer required to submit the items specified in paragraph (f)(3) of this section when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.143(i).

(10) An owner or operator may meet the requirements of this section by obtaining a written guarantee, hereafter referred to as "corporate guarantee." The guarantor must be the parent corporation of the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (f)(1) through (8) of this section and must comply with the terms of the corporate guarantee. The wording of the corporate guarantee must be identical to the wording specified in § 264.151(h). The corporate guarantee must accompany the items sent to the Regional Administrator as specified in paragraph (f)(3) of this section. The terms of the corporate guarantee must provide that:

(i) If the owner or operator fails to perform final closure of a facility covered by the corporate guarantee in accordance with the closure plan and other permit requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in § 264.143(a) in the name of the owner or operator.

(ii) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Regional Administrator. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Regional Administrator, as evidenced by the return receipts.

(iii) If the owner or operator fails to provide alternate financial assurance as specified in this section and obtain the written approval of such alternate assurance from the Regional Administrator within 90 days after receipt by both the owner or operator and the

Regional Administrator of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternative financial assurance in the name of the owner or operator.

(g) *Use of multiple financial mechanisms.* An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit, and insurance. The mechanisms must be as specified in paragraphs (a), (b), (d), and (e), respectively, of this section, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current closure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, he may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The Regional Administrator may use any or all of the mechanisms to provide for closure of the facility.

(h) *Use of a financial mechanism for multiple facilities.* An owner or operator may use a financial assurance mechanism specified in this section to meet the requirements of this section for more than one facility. Evidence of financial assurance submitted to the Regional Administrator must include a list showing, for each facility, the EPA Identification Number, name, address, and the amount of funds for closure assured by the mechanism. If the facilities covered by the mechanism are in more than one Region, identical evidence of financial assurance must be submitted to and maintained with the Regional Administrators of all such Regions. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for closure of any of the facilities covered by the mechanism, the Regional Administrator may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

(i) *Release of the owner or operator from the requirements of this section.* Within 60 days after receiving certifications from the owner or operator and an independent registered professional engineer that final closure has been completed in accordance with the approved closure plan, the Regional Administrator will notify the owner or operator in writing that he is no longer required by this section to maintain financial assurance for final closure of the facility, unless the Regional Administrator has reason to believe that final closure has not been in accordance with the approved closure plan. The Regional Administrator shall provide the owner or operator a detailed written statement of any such reason to believe that closure has not been in accordance with the approved closure plan.

[47 FR 15047, Apr. 7, 1982, as amended at 51 FR 16448, May 2, 1986]

§ 264.144 Cost estimate for post-closure care.

(a) The owner or operator of a disposal surface impoundment, disposal miscellaneous unit, land treatment unit, or landfill unit, or of a surface impoundment or waste pile required under §§ 264.228 and 264.258 to prepare a contingent closure and post-closure plan, must have a detailed written estimate, in current dollars, of the annual cost of post-closure monitoring and maintenance of the facility in accordance with the applicable post-closure regulations in §§ 264.117 through 264.120, 264.228, 264.258, 264.280, 264.310, and 264.603.

(1) The post-closure cost estimate must be based on the costs to the owner or operator of hiring a third party to conduct post-closure care activities. A third party is a party who is neither a parent nor a subsidiary of the owner or operator. (See definition of parent corporation in § 264.141(d).)

(2) The post-closure cost estimate is calculated by multiplying the annual post-closure cost estimate by the

number of years of post-closure care required under § 264.117.

(b) During the active life of the facility, the owner or operator must adjust the post-closure cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with § 264.145. For owners or operators using the financial test or corporate guarantee, the post-closure cost estimate must be updated for inflation within 30 days after the close of the firm's fiscal year and before the submission of updated information to the Regional Administrator as specified in § 264.145(f)(5). The adjustment may be made by recalculating the post-closure cost estimate in current dollars or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its *Survey of Current Business* as specified in § 264.145(b)(1) and (2). The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

(1) The first adjustment is made by multiplying the post-closure cost estimate by the inflation factor. The result is the adjusted post-closure cost estimate.

(2) Subsequent adjustments are made by multiplying the latest adjusted post-closure cost estimate by the latest inflation factor.

(c) During the active life of the facility, the owner or operator must revise the post-closure cost estimate within 30 days after the Regional Administrator has approved the request to modify the post-closure plan, if the change in the post-closure plan increases the cost of post-closure care. The revised post-closure cost estimate must be adjusted for inflation as specified in § 264.144(b).

(d) The owner or operator must keep the following at the facility during the operating life of the facility: The latest post-closure cost estimate prepared in accordance with § 264.144 (a) and (c) and, when this estimate has been adjusted in accordance with § 264.144(b), the latest adjusted post-closure cost estimate.

(Approved by the Office of Management and Budget under control number 2050-0036)

[47 FR 15047, Apr. 7, 1982, as amended at 47 FR 32357, July 26, 1982; 50 FR 4514, Jan. 31, 1985; 51 FR 16449, May 2, 1986; 52 FR 46964, Dec. 10, 1987]

§ 264.145 Financial assurance for post-closure care.

The owner or operator of a hazardous waste management unit subject to the requirements of § 264.144 must establish financial assurance for post-closure care in accordance with the approved post-closure plan for the facility 60 days prior to the initial receipt of hazardous waste or the effective date of the regulation, whichever is later. He must choose from the following options:

(a) *Post-closure trust fund.* (1) An owner or operator may satisfy the requirements of this section by establishing a post-closure trust fund which conforms to the requirements of this paragraph and submitting an originally signed duplicate of the trust agreement to the Regional Administrator. An owner or operator of a new facility must submit the originally signed duplicate of the trust agreement to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for disposal. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(2) The wording of the trust agreement must be identical to the wording specified in § 264.151(a)(1), and the trust agreement must be accompanied by a formal certification of acknowledgment (for example, see § 264.151(a)(2)). Schedule A of the trust agreement must be updated within 60 days after a change in the amount of the current post-closure cost estimate covered by the agreement.

(3) Payments into the trust fund must be made annually by the owner or operator over the term of the initial RCRA permit or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereaf-

ter referred to as the "pay-in period." The payments into the post-closure trust fund must be made as follows:

(i) For a new facility, the first payment must be made before the initial receipt of hazardous waste for disposal. A receipt from the trustee for this payment must be submitted by the owner or operator to the Regional Administrator before this initial receipt of hazardous waste. The first payment must be at least equal to the current post-closure cost estimate, except as provided in § 264.145(g), divided by the number of years in the pay-in period. Subsequent payments must be made no later than 30 days after each anniversay date of the first payment. The amount of each subsequent payment must be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current post-closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(ii) If an owner or operator establishes a trust fund as specified in § 265.145(a) of this chapter, and the value of that trust fund is less than the current post-closure cost estimate when a permit is awarded for the facility, the amount of the current post-closure cost estimate still to be paid into the fund must be paid in over the pay-in period as defined in paragraph (a)(3) of this section. Payments must continue to be made no later than 30 days after each anniversary date of the first payment made pursuant to Part 265 of this chapter. The amount of each payment must be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current post-closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(4) The owner or operator may accelerate payments into the trust fund or he may deposit the full amount of the current post-closure cost estimate at the time the fund is established. However, he must maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in paragraph (a)(3) of this section.

(5) If the owner or operator establishes a post-closure trust fund after having used one or more alternate mechanisms specified in this section or in § 265.145 of this chapter, his first payment must be in at least the amount that the fund would contain if the trust fund were established initially and annual payments made according to specifications of this paragraph and § 265.145(a) of this chapter, as applicable.

(6) After the pay-in period is completed, whenever the current post-closure cost estimate changes during the operating life of the facility, the owner or operator must compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, must either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current post-closure cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(7) During the operating life of the facility, if the value of the trust fund is greater than the total amount of the current post-closure cost estimate, the owner or operator may submit a written request to the Regional Administrator for release of the amount in excess of the current post-closure cost estimate.

(8) If an owner or operator substitutes other financial assurance as specified in this section for all or part of the trust fund, he may submit a written request to the Regional Administrator for release of the amount in excess of the current post-closure cost estimate covered by the trust fund.

(9) Within 60 days after receiving a request from the owner or operator for release of funds as specified in

paragraph (a) (7) or (8) of this section, the Regional Administrator will instruct the trustee to release to the owner or operator such funds as the Regional Administrator specifies in writing.

(10) During the period of post-closure care, the Regional Administrator may approve a release of funds if the owner or operator demonstrates to the Regional Administrator that the value of the trust fund exceeds the remaining cost of post-closure care.

(11) An owner or operator or any other person authorized to conduct post-closure care may request reimbursements for post-closure care expenditures by submitting itemized bills to the Regional Administrator. Within 60 days after receiving bills for post-closure care activities, the Regional Administrator will instruct the trustee to make reimbursements in those amounts as the Regional Administrator specifies in writing, if the Regional Administrator determines that the post-closure care expenditures are in accordance with the approved post-closure plan or otherwise justified. If the Regional Administrator does not instruct the trustee to make such reimbursements, he will provide the owner or operator with a detailed written statement of reasons.

(12) The Regional Administrator will agree to termination of the trust when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.145(i).

(b) *Surety bond guaranteeing payment into a post-closure trust fund.* (1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this paragraph and submitting the bond to the Regional Administrator. An owner or operator of a new facility must submit the bond to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The wording of the surety bond must be identical to the wording specified in § 264.151(b).

(3) The owner or operator who uses a surety bond to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Regional Administrator. This standby trust fund must meet the requirements specified in § 264.145(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Regional Administrator with the surety bond; and

(ii) Until the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in § 264.145(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current post-closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that the owner or operator will:

(i) Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or

(ii) Fund the standby trust fund in an amount equal to the penal sum within 15 days after an administrative order to begin final closure issued by the Regional Administrator becomes final, or within 15 days after an order to begin final closure is issued by a U.S. district court or other court of competent jurisdiction; or

(iii) Provide alternate financial assurance as specified in this section, and obtain the Regional Administrator's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the

Regional Administrator of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(6) The penal sum of the bond must be in an amount at least equal to the current post-closure cost estimate, except as provided in § 264.145(g).

(7) Whenever the current post-closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current post-closure cost estimate decreases, the penal sum may be reduced to the amount of the current post-closure cost estimate following written approval by the Regional Administrator.

(8) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Regional Administrator. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Regional Administrator, as evidenced by the return receipts.

(9) The owner or operator may cancel the bond if the Regional Administrator has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in this section.

(c) *Surety bond guaranteeing performance of post-closure care.* (1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this paragraph and submitting the bond to the Regional Administrator. An owner or operator of a new facility must submit the bond to the Regional Administrator at least 60 days before the date on which hazardous waste is first received
for disposal. The bond must be effec
tive before this initial receipt of haz
ardous waste. The surety company is
suing the bond must, at a minimum
be among those listed as acceptabl
sureties on Federal bonds in Circula
570 of the U.S. Department of th
Treasury.

(2) The wording of the surety bon
must be identical to the wording spec
fied in § 264.151(c).

(3) The owner or operator who use
a surety bond to satisfy the require
ments of this section must also estab
lish a standby trust fund. Under th
terms of the bond, all payments mad
thereunder will be deposited by th
surety directly into the standby trus
fund in accordance with instruction
from the Regional Administrator. Th
standby trust fund must meet the r
quirements specified in § 264.145(a
except that:

(i) An originally signed duplicate
the trust agreement must be submi
ted to the Regional Administrato
with the surety bond; and

(ii) Unless the standby trust fund
funded pursuant to the requiremen
of this section, the following are n
required by these regulations:

(A) Payments into the trust fund
specified in § 264.145(a);

(B) Updating of Schedule A of th
trust agreement (see § 264.151(a))
show current post-closure cost es
mates;

(C) Annual valuations as required
the trust agreement; and

(D) Notices of nonpayment as r
quired by the trust agreement.

(4) The bond must guarantee th
the owner or operator will:

(i) Perform post-closure care in
cordance with the post-closure pl
and other requirements of the perm
for the facility; or

(ii) Provide alternate financial ass
ance as specified in this section, a
obtain the Regional Administrato
written approval of the assurance p
vided, within 90 days of receipt
both the owner or operator and t
Regional Administrator of a notice
cancellation of the bond from t
surety.

(5) Under the terms of the bond, t
surety will become liable on the bo
obligation when the owner or opera

fails to perform as guaranteed by the bond. Following a final administrative determination pursuant to section 3008 of RCRA that the owner or operator has failed to perform post-closure care in accordance with the approved post-closure plan and other permit requirements, under the terms of the bond the surety will perform post-closure care in accordance with the post-closure plan and other permit requirements or will deposit the amount of the penal sum into the standby trust fund.

(6) The penal sum of the bond must be in an amount at least equal to the current post-closure cost estimate.

(7) Whenever the current post-closure cost estimate increases to an amount greater than the penal sum during the operating life of the facility, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the penal sum may be reduced to the amount of the current post-closure cost estimate following written approval by the Regional Administrator.

(8) During the period of post-closure care, the Regional Administrator may approve a decrease in the penal sum if the owner or operator demonstrates to the Regional Administrator that the amount exceeds the remaining cost of post-closure care.

(9) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Regional Administrator. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Regional Administrator, as evidenced by the return receipts.

(10) The owner or operator may cancel the bond if the Regional Administrator has given prior written consent. The Regional Administrator will provide such written consent when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.145(i).

(11) The surety will not be liable for deficiencies in the performance of post-closure care by the owner or operator after the Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.145(i).

(d) *Post-closure letter of credit.* (1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit which conforms to the requirements of this paragraph and submitting the letter to the Regional Administrator. An owner or operator of a new facility must submit the letter of credit to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for disposal. The letter of credit must be effective before this initial receipt of hazardous waste. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a Federal or State agency.

(2) The wording of the letter of credit must be identical to the wording specified in § 264.151(d).

(3) An owner or operator who uses a letter of credit to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the Regional Administrator will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the Regional Administrator. This standby trust fund must meet the requirements of the trust fund specified in § 264.145(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Regional Administrator with the letter of credit; and

(ii) Unless the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in § 264.145(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current post-closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: the EPA Identification Number, name, and address of the facility, and the amount of funds assured for post-closure care of the facility by the letter of credit.

(5) The letter of credit must be irrevocable and issued for a period of at least 1 year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least 1 year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the Regional Administrator by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the Regional Administrator have received the notice, as evidenced by the return receipts.

(6) The letter of credit must be issued in a amount at least equal to the current post-closure cost estimate, except as provided in § 264.145(g).

(7) Whenever the current post-closure cost estimate increases to an amount greater than the amount of the credit during the operating life of the facility, the owner or operator, within 60 days after the increase, must either cause the amount of the credit to be increased so that it at least equals the current post-closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the amount of the credit may be reduced to the amount of the current post-closure cost estimate following written approval by the Regional Administrator.

(8) During the period of post-closure care, the Regional Administrator may approve a decrease in the amount of the letter of credit if the owner or operator demonstrates to the Regional Administrator that the amount exceeds the remaining cost of post-closure care.

(9) Following a final administrative determination pursuant to section 3008 of RCRA that the owner or operator has failed to perform post-closure care in accordance with the approved post-closure plan and other permit requirements, the Regional Administrator may draw on the letter of credit.

(10) If the owner or operator does not establish alternate financial assurance as specified in this section and obtain written approval of such alternate assurance from the Regional Administrator within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the Regional Administrator will draw on the letter of credit. The Regional Administrator may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of any such extension the Regional Administrator will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this section and obtain written approval of such assurance from the Regional Administrator

(11) The Regional Administrator will return the letter of credit to the issuing institution for termination when:

(i) An owner or operator substitute alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.145(i).

(e) *Post-closure insurance.* (1) An owner or operator may satisfy the requirements of this section by obtain ing post-closure insurance which conforms to the requirements of this paragraph and submitting a certificate of such insurance to the Regional Administrator. An owner or operator of a new facility must submit the certificate of insurance to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for disposal. The insurance must be effective before this initial receipt of hazardous waste. At a minimum, the insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) The wording of the certificate of insurance must be identical to the wording specified in § 264.151(e).

(3) The post-closure insurance policy must be issued for a face amount at least equal to the current post-closure cost estimate, except as provided in § 264.145(g). The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(4) The post-closure insurance policy must guarantee that funds will be available to provide post-closure care of the facility whenever the post-closure period begins. The policy must also guarantee that once post-closure care begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the Regional Administrator, to such party or parties as the Regional Administrator specifies.

(5) An owner or operator or any other person authorized to conduct post-closure care may request reimbursements for post-closure care expenditures by submitting itemized bills to the Regional Administrator. Within 60 days after receiving bills for post-closure care activities, the Regional Administrator will instruct the insurer to make reimbursements in those amounts as the Regional Administrator specifies in writing, if the Regional Administrator determines that the post-closure care expenditures are in accordance with the approved post-closure plan or otherwise justified. If the Regional Administrator does not instruct the insurer to make such reimbursements, he will provide the owner or operator with a detailed written statement of reasons.

(6) The owner or operator must maintain the policy in full force and effect until the Regional Administrator consents to termination of the policy by the owner or operator as specified in paragraph (e)(11) of this section. Failure to pay the premium, without substitution of alternate financial assurance as specified in this section, will constitute a significant violation of these regulations, warranting such remedy as the Regional Administrator deems necessary. Such violation will be deemed to begin upon receipt by the Regional Administrator of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(7) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

(8) The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the Regional Administrator. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the Regional Administrator and the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

(i) The Regional Administrator deems the facility abandoned; or

(ii) The permit is terminated or revoked or a new permit is denied; or

(iii) Closure is ordered by the Regional Administrator or a U.S. district court or other court of competent jurisdiction; or

(iv) The owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or

(v) The premium due is paid.

(9) Whenever the current post-closure cost estimate increases to an amount greater than the face amount of the policy during the operating life of the facility, the owner or operator, within 60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the face amount may be reduced to the amount of the current post-closure cost estimate following written approval by the Regional Administrator.

(10) Commencing on the date that liability to make payments pursuant to the policy accrues, the insurer will thereafter annually increase the face amount of the policy. Such increase must be equivalent to the face amount of the policy, less any payments made, multiplied by an amount equivalent to 85 percent of the most recent investment rate or of the equivalent coupon-issue yield announced by the U.S. Treasury for 26-week Treasury securities.

(11) The Regional Administrator will give written consent to the owner or operator that he may terminate the insurance policy when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.145(i).

(f) *Financial test and corporate guarantee for post-closure care.* (1) An owner or operator may satisfy the requirements of this section by demonstrating that he passes a financial test as specified in this paragraph. To pass this test the owner or operator must meet the criteria of either paragraph (f)(1)(i) or (ii) of this section:

(i) The owner or operator must have

(A) Two of the following thre ratios: a ratio of total liabilities to ne worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio o current assets to current liabilitie greater than 1.5; and

(B) Net working capital and tangibl net worth each at least six times th sum of the current closure and post closure cost estimates and the curren plugging and abandonment cost est mates; and

(C) Tangible net worth of at leas $10 million; and

(D) Assets in the United State amounting to at least 90 percent of h total assets or at least six times th sum of the current closure and pos closure cost estimates and the curren plugging and abandonment cost est mates.

(ii) The owner or operator mu have:

(A) A current rating for his mo recent bond issuance of AAA, AA, or BBB as issued by Standard an Poor's or Aaa, Aa, A or Baa as issu by Moody's; and

(B) Tangible net worth at least s times the sum of the current closu and post-closure cost estimates a the current plugging and abando ment cost estimates; and

(C) Tangible net worth of at lea $10 million; and

(D) Assets located in the Unit States amounting to at least 90 p cent of his total assets or at least s times the sum of the current closu and post-closure cost estimates a the current plugging and abando ment cost estimates.

(2) The phrase "current closure a post-closure cost estimates" as used paragraph (f)(1) of this section ref to the cost estimates required to shown in paragraphs 1-4 of the let from the owner's or operator's chief nancial officer (§ 264.151(f)). T phrase "current plugging and ab donment cost estimates" as used

paragraph (f)(1) of this section refers to the cost estimates required to be shown in paragraphs 1-4 of the letter from the owner's or operator's chief financial officer (§ 144.70(f) of this title).

(3) To demonstrate that he meets this test, the owner or operator must submit the following items to the Regional Administrator:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in § 264.151(f); and

(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(iii) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) An owner or operator of a new facility must submit the items specified in paragraph (f)(3) of this section to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for disposal.

(5) After the initial submission of items specified in paragraph (f)(3) of this section, the owner or operator must send updated information to the Regional Administrator within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in paragraph (f)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, he must send notice to the Regional Administrator of intent to establish alternate financial assurance as specified in this section. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator must provide the alternate financial assurance within 120 days after the end of such fiscal year.

(7) The Regional Administrator may, based on a reasonable belief that the owner or operator may no longer meet the requirements of paragraph (f)(1) of this section, require reports of financial condition at any time from the owner or operator in addition to those specified in paragraph (f)(3) of this section. If the Regional Administrator finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, the owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of such a finding.

(8) The Regional Administrator may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (f)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Regional Administrator will evaluate other qualifications on an individual basis. The owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of the disallowance.

(9) During the period of post-closure care, the Regional Administrator may approve a decrease in the current post-closure cost estimate for which this test demonstrates financial assurance if the owner or operator demonstrates to the Regional Administrator that the amount of the cost estimate exceeds the remaining cost of post-closure care.

(10) The owner or operator is no longer required to submit the items specified in paragraph (f)(3) of this section when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 264.145(i).

(11) An owner or operator may meet the requirements of this section by obtaining a written guarantee, hereafter referred to as "corporate guarantee." The guarantor must be the parent corporation of the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (f)(1) through (9) of this section and must comply with the terms of the corporate guarantee. The wording of the corporate guarantee must be identical to the wording specified in § 264.151(h). The corporate guarantee must accompany the items sent to the Regional Administrator as specified in paragraph (f)(3) of this section. The terms of the corporate guarantee must provide that:

(i) If the owner or operator fails to perform post-closure care of a facility covered by the corporate guarantee in accordance with the post-closure plan and other permit requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in § 264.145(a) in the name of the owner or operator.

(ii) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Regional Administrator. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Regional Administrator, as evidenced by the return receipts.

(iii) If the owner or operator fails to provide alternate financial assurance as specified in this section and obtain the written approval of such alternate assurance from the Regional Administrator within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternate financial assurance in the name of the owner or operator.

(g) *Use of multiple financial mechanisms.* An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit, and insurance. The mechanisms must be a specified in paragraphs (a), (b), (d) and (e), respectively, of this section except that it is the combination o mechanisms, rather than the singl mechanism, which must provide financial assurance for an amount at leas equal to the current post-closure cos estimate. If an owner or operator use a trust fund in combination with surety bond or a letter of credit, h may use the trust fund as the standb trust fund for the other mechanisms A single standby trust fund may be established for two or more mechanisms The Regional Administrator may us any or all of the mechanisms to provide for post-closure care of the facility.

(h) *Use of a financial mechanism fo multiple facilities.* An owner or operator may use a financial assuranc mechanism specified in this section t meet the requirements of this sectio for more than one facility. Evidence o financial assurance submitted to th Regional Administrator must include list showing, for each facility, the EP Identification Number, name, addres and the amount of funds for post-closure care assured by the mechanism If the facilities covered by the mechanism are in more than one Regio identical evidence of financial assurance must be submitted to and maintained with the Regional Administrators of all such Regions. The amou of funds available through the mechanism must be no less than the sum o funds that would be available if a separate mechanism had been establishe and maintained for each facility. In directing funds available through th mechanism for post-closure care any of the facilities covered by th mechanism, the Regional Administrator may direct only the amount funds designated for that facilit unless the owner or operator agrees the use of additional funds availab under the mechanism.

(i) *Release of the owner or operat from the requirements of this sectio* Within 60 days after receiving certifications from the owner or operat and an independent registered profe sional engineer that the post-closure care period has been completed for a hazardous waste disposal unit in accordance with the approved plan, the Regional Administrator will notify the owner or operator that he is no longer required to maintain financial assurance for post-closure care of that unit, unless the Regional Administrator has reason to believe that post-closure care has not been in accordance with the approved post-closure plan. The Regional Administrator shall provide the owner or operator with a detailed written statement of any such reason to believe that post-closure care has not been in accordance with the approved post-closure plan.

[47 FR 15047, Apr. 7, 1982, as amended at 51 FR 16449, May 2, 1986]

§ 264.146 Use of a mechanism for financial assurance of both closure and post-closure care.

An owner or operator may satisfy the requirements for financial assurance for both closure and post-closure care for one or more facilities by using a trust fund, surety bond, letter of credit, insurance, financial test, or corporate guarantee that meets the specifications for the mechanism in both §§ 264.143 and 264.145. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for financial assurance of closure and of post-closure care.

§ 264.147 Liability requirements.

(a) *Coverage for sudden accidental occurrences.* An owner or operator of a hazardous waste treatment, storage, or disposal facility, or a group of such facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability coverage for sudden accidental occurrences in the amount of at least $1 million per occurrence with an annual aggregate of at least $2 million, exclusive of legal defense costs. This liability coverage may be demonstrated as specified in paragraphs (a) (1), (2), (3), (4), (5), or (6) of this section:

(1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this paragraph.

(i) Each insurance policy must be amended by attachment of the Hazardous Waste Facility Liability Endorsement or evidenced by a Certificate of Liability Insurance. The wording of the endorsement must be identical to the wording specified in § 264.151(i). The wording of the certificate of insurance must be identical to the wording specified in § 264.151(j). The owner or operator must submit a signed duplicate original of the endorsement or the certificate of insurance to the Regional Administrator, or Regional Administrators if the facilities are located in more than one Region. If requested by a Regional Administrator, the owner or operator must provide a signed duplicate original of the insurance policy. An owner or operator of a new facility must submit the signed duplicate original of the Hazardous Waste Facility Liability Endorsement or the Certificate of Liability Insurance to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance must be effective before this initial receipt of hazardous waste.

(ii) Each insurance policy must be issued by an insurer which, at a minimum, is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) An owner or operator may meet the requirements of this section by passing a financial test or using the guarantee for liability coverage as specified in paragraph (g) of this section.

(3) An owner or operator may meet the requirements of this section by obtaining a letter of credit for liability coverage as specified in paragraph (h) of this section.

(4) An owner or operator may meet the requirements of this section by obtaining a surety bond for liability cov-

erage as specified in paragraph (i) of this section.

(5) An owner or operator may meet the requirements of this section by obtaining a trust fund for liability coverage as specified in paragraph (j) of this section.

(6) An owner or operator may demonstrate the required liability coverage through the use of combinations of insurance, financial test, guarantee, letter of credit, surety bond, and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated must total at least the minimum amounts required by this section. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under this paragraph, the owner or operator shall specify at least one such assurance as "primary" coverage and shall specify other assurance as "excess" coverage.

(7) An owner or operator shall notify the Regional Administrator in writing within 30 days (i) whenever a claim for bodily injury or property damages caused by the operation of a hazardous waste treatment, storage, or disposal facility is made against the owner or operator or an instrument providing financial assurance for liability coverage under this section and (ii) whenever the amount of financial assurance for liability coverage under this section provided by a financial instrument authorized by paragraphs (a)(1) through (a)(6) of this section is reduced.

(b) *Coverage for nonsudden accidental occurrences.* An owner or operator of a surface impoundment, landfill, or land treatment facility which is used to manage hazardous waste, or a group of such facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by nonsudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability coverage for nonsudden accidental occurrences in the amount of at least $3 million per occurrence with an annual aggregate of at least $6 million, exclusive of legal defense costs. An owner or operator who must meet the requirements of this section may combine the required per-occurrence coverage levels for sudden and nonsudden accidental occurrences into a single per-occurrence level, and combine the required annual aggregate coverage levels for sudden and nonsudden accidental occurrences into a single annual aggregate level. Owners or operators who combine coverage levels for sudden and nonsudden accidental occurrences must maintain liability coverage in the amount of at least $4 million per occurrence and $8 million annual aggregate. This liability coverage may be demonstrated as specified in paragraphs (b) (1), (2), (3), (4), (5), or (6), of this section:

(1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this paragraph.

(i) Each insurance policy must be amended by attachment of the Hazardous Waste Facility Liability Endorsement or evidenced by a Certificate of Liability Insurance. The wording of the endorsement must be identical to the wording specified in § 264.151(i). The wording of the certificate of insurance must be identical to the wording specified in § 264.151(j). The owner or operator must submit a signed duplicate original of the endorsement or the certificate of insurance to the Regional Administrator, or Regional Administrators if the facilities are located in more than one Region. If requested by a Regional Administrator, the owner or operator must provide a signed duplicate original of the insurance policy. An owner or operator of a new facility must submit the signed duplicate original of the Hazardous Waste Facility Liability Endorsement or the Certificate of Liability Insurance to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance must be effective before this initial receipt of hazardous waste.

(ii) Each insurance policy must be issued by an insurer which, at a minimum, is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) An owner or operator may meet the requirements of this section by passing a financial test or using the guarantee for liability coverage as specified in paragraphs (f) and (g) of this section.

(3) An owner or operator may meet the requirements of this section by obtaining a letter of credit for liability coverage as specified in paragraph (h) of this section.

(4) An owner or operator may meet the requirements of this section by obtaining a surety bond for liability coverage as specified in paragraph (i) of this section.

(5) An owner or operator may meet the requirements of this section by obtaining a trust fund for liability coverage as specified in paragraph (j) of this section.

(6) An owner or operator may demonstrate the required liability coverage through the use of combinations of insurance, financial test, guarantee, letter of credit, surety bond, and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated must total at least the minimum amount required by this section. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under this paragraph, the owner or operator shall specify at least one such assurance as "primary" coverage and shall specify other assurance as "excess" coverage.

(7) An owner or operator shall notify the Regional Administrator in writing within 30 days (i) whenever a claim for bodily injury or property damages caused by the operation of a hazardous waste treatment, storage, or disposal facility is made against the owner or operator or an instrument providing financial assurance for liability coverage under this section and (ii) whenever the amount of financial assurance for liability coverage under this section provided by a financial instrument authorized by paragraphs (a)(1) through (a)(6) of this section is reduced.

(c) *Request for variance.* If an owner or operator can demonstrate to the satisfaction of the Regional Administrator that the levels of financial responsibility required by paragraph (a) or (b) of this section are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the owner or operator may obtain a variance from the Regional Administrator. The request for a variance must be submitted to the Regional Administrator as part of the application under § 270.14 of this chapter for a facility that does not have a permit, or pursuant to the procedures for permit modification under § 124.5 of this chapter for a facility that has a permit. If granted, the variance will take the form of an adjusted level of required liability coverage, such level to be based on the Regional Administrator's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. The Regional Administrator may require an owner or operator who requests a variance to provide such technical and engineering information as is deemed necessary by the Regional Administrator to determine a level of financial responsibility other than that required by paragraph (a) or (b) of this section. Any request for a variance for a permitted facility will be treated as a request for a permit modification under §§ 270.41(a)(5) and 124.5 of this chapter.

(d) *Adjustments by the Regional Administrator.* If the Regional Administrator determines that the levels of financial responsibility required by paragraph (a) or (b) of this section are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the Regional Administrator may adjust the level of financial responsibility required under paragraph (a) or (b) of this section as may be necessary to protect human health and the environment. This adjusted level will be based on the Regional Administrator's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. In addition, if the Regional Administrator determines that there is a significant risk to human health and the environment from nonsudden accidental occurrences resulting from the operations of a facility that is not a surface impoundment, landfill, or land treatment facility, he may require that an owner or operator of the facility comply with paragraph (b) of this section. An owner or operator must furnish to the Regional Administrator, within a reasonable time, any information which the Regional Administrator requests to determine whether cause exists for such adjustments of level or type of coverage. Any adjustment of the level or type of coverage for a facility that has a permit will be treated as a permit modification under §§ 270.41(a)(5) and 124.5 of this chapter.

(e) *Period of coverage.* Within 60 days after receiving certifications from the owner or operator and an independent registered professional engineer that final closure has been completed in accordance with the approved closure plan, the Regional Administrator will notify the owner or operator in writing that he is no longer required by this section to maintain liability coverage for that facility, unless the Regional Administrator has reason to believe that closure has not been in accordance with the approved closure plan.

(f) *Financial test for liability coverage.* (1) An owner or operator may satisfy the requirements of this section by demonstrating that he passes a financial test as specified in this paragraph. To pass this test the owner or operator must meet the criteria of paragraph (f)(1)(i) or (ii):

(i) The owner or operator must have:

(A) Net working capital and tangible net worth each at least six times the amount of liability coverage to be demonstrated by this test; and

(B) Tangible net worth of at least $10 million; and

(C) Assets in the United States amounting to either: (*1*) At least 90 percent of his total assets; or (*2*) at least six times the amount of liability coverage to be demonstrated by this test.

(ii) The owner or operator must have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's, or Aaa, Aa, A, or Baa as issued by Moody's; and

(B) Tangible net worth of at least $10 million; and

(C) Tangible net worth at least six times the amount of liability coverage to be demonstrated by this test; and

(D) Assets in the United States amounting to either: (*1*) At least 90 percent of his total assets; or (*2*) at least six times the amount of liability coverage to be demonstrated by this test.

(2) The phrase "amount of liability coverage" as used in paragraph (f)(1) of this section refers to the annual aggregate amounts for which coverage is required under paragraphs (a) and (b) of this section.

(3) To demonstrate that he meets this test, the owner or operator must submit the following three items to the Regional Administrator:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in § 264.151(g). If an owner or operator is using the financial test to demonstrate both assurance for closure or post-closure care, as specified by §§ 264.143(f), 264.145(f), 265.143(e), and 265.145(e), and liability coverage, he must submit the letter specified in § 264.151(g) to cover both forms of financial responsibility; a separate letter as specified in § 264.151(f) is not required.

(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year.

(iii) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) An owner or operator of a new facility must submit the items specified in paragraph (f)(3) of this section to the Regional Administrator at least 60 days before the date on which hazardous waste is first received for treatment, storage, or disposal.

(5) After the initial submission of items specified in paragraph (f)(3) of this section, the owner or operator must send updated information to the Regional Administrator within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in paragraph (f)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, he must obtain insurance for the entire amount of required liability coverage as specified in this section. Evidence of insurance must be submitted to the Regional Administrator within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the test requirements.

(7) The Regional Administrator may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (f)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Regional Administrator will evaluate other qualifications on an individual basis. The owner or operator must provide evidence of insurance for the entire amount of required liability coverage as specified in this section within 30 days after notification of disallowance.

(g) *Guarantee for liability coverage.* (1) Subject to paragraph (g)(2) of this section, an owner or operator may meet the requirements of this section by obtaining a written guarantee, hereinafter referred to as "guarantee." The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" with the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (f)(1) through (f)(6) of this section. The wording of the guarantee must be identical to the wording specified in § 264.151(h)(2) of this part. A certified copy of the guarantee must accompany the items sent to the Regional Administrator as specified in paragraph (f)(3) of this section. One of these items must be the letter from the guarantor's chief financial officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, this letter must describe the value received in consideration of the guarantee. If the guarantor is a firm with a "substantial business relationship" with the owner or operator, this letter must describe this "substantial business relationship" and the value received in consideration of the guarantee.

(i) If the owner or operator fails to satisfy a judgment based on a determination of liability for bodily injury or property damage to third parties caused by sudden or nonsudden accidental occurrences (or both as the case may be), arising from the operation of facilities covered by this corporate guarantee, or fails to pay an amount agreed to in settlement of claims arising from or alleged to arise from such injury or damage, the guarantor will do so up to the limits of coverage.

(ii) [Reserved]

(2)(i) In the case of corporations incorporated in the United States, a guarantee may be used to satisfy the requirements of this section only if the Attorneys General or Insurance Commissioners of (A) the State in which the guarantor is incorporated, and (B) each State in which a facility covered by the guarantee is located have submitted a written statement to EPA that a guarantee executed as described in this section and § 264.151(h)(2) is a legally valid and enforceable obligation in that State.

(ii) In the case of corporations incorporated outside the United States, a guarantee may be used to satisfy the requirements of this section only if (A) the non-U.S. corporation has identified a registered agent for service of process in each State in which a facility covered by the guarantee is located and in the State in which it has its principal place of business, and (B) the Attorney General or Insurance Commissioner of each State in which a facility covered by the guarantee is located and the State in which the guarantor corporation has its principal place of business, has submitted a written statement to EPA that a guarantee executed as described in this section and § 264.151(h)(2) is a legally valid and enforceable obligation in that State.

(h) *Letter of credit for liability coverage.* (1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter or credit that conforms to the requirements of this paragraph and submitting a copy of the letter of credit to the Regional Administrator.

(2) The financial institution issuing the letter of credit must be an entity that has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by a Federal or State agency.

(3) The wording of the letter of credit must be identical to the wording specified in § 264.151(k) of this part.

(i) *Surety bond for liability coverage.* (1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond that conforms to the requirements of this paragraph and submitting a copy of the bond to the Regional Administrator.

(2) The surety company issuing the bond must be among those listed as acceptable sureties on Federal bonds in the most recent Circular 570 of the U.S. Department of the Treasury.

(3) The wording of the surety bond must be identical to the wording specified in § 264.151(l) of this part.

(4) A surety bond may be used to satisfy the requirements of this section only if the Attorneys General or Insurance Commissioners of (i) the State in which the surety is incorporated, and (ii) each State in which a
facility covered by the surety bond
located have submitted a writte
statement to EPA that a surety bon
executed as described in this sectio
and § 264.151(l) of this part is a legall
valid and enforceable obligation
that State.

(j) *Trust fund for liability coverag*
(1) An owner or operator may satis
the requirements of this section by e
tablishing a trust fund that conform
to the requirements of this paragrap
and submitting an originally signe
duplicate of the trust agreement
the Regional Administrator.

(2) The trustee must be an enti
which has the authority to act as
trustee and whose trust operations a
regulated and examined by a Feder
or State agency.

(3) The trust fund for liability cove
age must be funded for the f
amount of the liability coverage to
provided by the trust fund before
may be relied upon to satisfy the
quirements of this section. If at a
time after the trust fund is created t
amount of funds in the trust fund
reduced below the full amount of t
liability coverage to be provided, t
owner or operator, by the anniversa
date of the establishment of the fu
must either add sufficient funds to t
trust fund to cause its value to eq
the full amount of liability coverage
be provided, or obtain other financ
assurance as specified in this secti
to cover the difference. For purpo
of this paragraph, "the full amount
the liability coverage to be provide
means the amount of coverage
sudden and/or nonsudden occurren
required to be provided by the ow
or operator by this section, less
amount of financial assurance for
ability coverage that is being provi
by other financial assurance mec
nisms being used to demonstrate
nancial assurance by the owner or
erator.

(4) The wording of the trust f
must be identical to the wording sp
fied in § 264.151(m) of this part.

(k) Notwithstanding any other pr
sion of this part, an owner or opera
using liability insurance to satisfy
requirements of this section may
until October 16, 1982, a Hazard
Waste Facility Liability Endorsem

or Certificate of Liability Insurance that does not certify that the insurer is licensed to transact the business of insurance, or eligible as an excess or surplus lines insurer, in one or more States.

(Approved by the Office of Management and Budget under control number 2000-0445, for paragraphs (a)(1)(i), (b)(1)(i), (c), (d), and (f)(3) through (6))

[47 FR 16554, Apr. 16, 1982, as amended at 47 FR 28627, July 1, 1982; 47 FR 30447, July 13, 1982; 48 FR 30115, June 30, 1983; 51 FR 16450, May 2, 1986; 51 FR 25354, July 11, 1986; 52 FR 44320, Nov. 18, 1987; 52 FR 46964, Dec. 10, 1987; 53 FR 33950, Sept. 1, 1988]

§ 264.148 Incapacity of owners or operators, guarantors, or financial institutions.

(a) An owner or operator must notify the Regional Administrator by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the owner or operator as debtor, within 10 days after commencement of the proceeding. A guarantor of a corporate guarantee as specified in §§ 264.143(f) and 264.145(f) must make such a notification if he is named as debtor, as required under the terms of the corporate guarantee (§ 264.151(h)).

(b) An owner or operator who fulfills the requirements of § 264.143, § 264.145, or § 264.147 by obtaining a trust fund, surety bond, letter of credit, or insurance policy will be deemed to be without the required financial assurance or liability coverage in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution to act as trustee or of the institution issuing the surety bond, letter of credit, or insurance policy to issue such instruments. The owner or operator must establish other financial assurance or liability coverage within 60 days after such an event.

§ 264.149 Use of State-required mechanisms.

(a) For a facility located in a State where EPA is administering the requirements of this subpart but where the State has hazardous waste regulations that include requirements for financial assurance of closure or post-closure care or liability coverage, an owner or operator may use State-required financial mechanisms to meet the requirements of § 264.143, § 264.145, or § 264.147, if the Regional Administrator determines that the State mechanisms are at least equivalent to the financial mechanism specified in this subpart. The Regional Administrator will evaluate the equivalency of the mechanisms principally in terms of (1) certainty of the availability of funds for the required closure or post-closure care activities or liability coverage and (2) the amount of funds that will be made available. The Regional Administrator may also consider other factors as he deems appropriate. The owner or operator must submit to the Regional Administrator evidence of the establishment of the mechanism together with a letter requesting that the State-required mechanism be considered acceptable for meeting the requirements of this subpart. The submission must include the following information: The facility's EPA Identification Number, name, and address, and the amount of funds for closure or post-closure care or liability coverage assured by the mechanism. The Regional Administrator will notify the owner or operator of his determination regarding the mechanism's acceptability in lieu of financial mechanisms specified in this subpart. The Regional Administrator may require the owner or operator to submit additional information as is deemed necessary to make this determination. Pending this determination, the owner or operator will be deemed to be in compliance with the requirements of § 264.143, § 264.145, or § 264.147, as applicable.

(b) If a State-required mechanism is found acceptable as specified in paragraph (a) of this section except for the amount of funds available, the owner or operator may satisfy the requirements of this subpart by increasing the funds available through the State-required mechanism or using additional financial mechanisms as specified in this subpart. The amount of funds available through the State and Federal mechanisms must at least equal the amount required by this subpart.

§ 264.150 State assumption of responsibility.

(a) If a State either assumes legal responsibility for an owner's or operator's compliance with the closure, post-closure care, or liability requirements of this part or assures that funds will be available from State sources to cover those requirements, the owner or operator will be in compliance with the requirements of § 264.143, § 264.145, or § 264.147 if the Regional Administrator determines that the State's assumption of responsibility is at least equivalent to the financial mechanisms specified in this subpart. The Regional Administrator will evaluate the equivalency of State guarantees principally in terms of (1) certainty of the availability of funds for the required closure or post-closure care activities or liability coverage and (2) the amount of funds that will be made available. The Regional Administrator may also consider other factors as he deems appropriate. The owner or operator must submit to the Regional Administrator a letter from the State describing the nature of the State's assumption of responsibility together with a letter from the owner or operator requesting that the State's assumption of responsibility be considered acceptable for meeting the requirements of this subpart. The letter from the State must include, or have attached to it, the following information: the facility's EPA Identification Number, name, and address, and the amount of funds for closure or post-closure care or liability coverage that are guaranteed by the State. The Regional Administrator will notify the owner or operator of his determination regarding the acceptability of the State's guarantee in lieu of financial mechanisms specified in this subpart. The Regional Administrator may require the owner or operator to submit additional information as is deemed necessary to make this determination. Pending this determination, the owner or operator will be deemed to be in compliance with the requirements of § 264.143, § 264.145, or § 264.147, as applicable.

(b) If a State's assumption of res
sibility is found acceptable as spec
in paragraph (a) of this section ex
for the amount of funds available,
owner or operator may satisfy th
quirements of this subpart by us
both the State's assurance *and*
tional financial mechanisms as s
fied in this subpart. The amoun
funds available through the State
Federal mechanisms must at
equal the amount required by this
part.

§ 264.151 Wording of the instruments

(a)(1) A trust agreement for a
fund, as specified in § 264.143(
§ 264.145(a) or § 265.143(a)
§ 265.145(a) of this chapter, mus
worded as follows, except that ins
tions in brackets are to be rep
with the relevant information an
brackets deleted:

TRUST AGREEMENT

Trust Agreement, the "Agreement
tered into as of [date] by and be
[name of the owner or operator], a [na
State] [insert "corporation," "partner
"association," or "proprietorship"]
"Grantor," and [name of corporate tr
[insert "incorporated in the State of —
"a national bank"], the "Trustee."

Whereas, the United States Enviro
tal Protection Agency, "EPA," an age
the United States Government, has
lished certain regulations applicable
Grantor, requiring that an owner or
tor of a hazardous waste management
ty shall provide assurance that funds
available when needed for closure
post-closure care of the facility,

Whereas, the Grantor has elected
tablish a trust to provide all or part
financial assurance for the facilities
fied herein,

Whereas, the Grantor, acting thro
duly authorized officers, has select
Trustee to be the trustee under this
ment, and the Trustee is willing to
trustee,

Now, Therefore, the Grantor a
Trustee agree as follows:

Section 1. Definitions. As used
Agreement:

(a) The term "Grantor" means the
or operator who enters into this Agr
and any successors or assigns of the
or.

(b) The term "Trustee" means the
ee who enters into this Agreement
successor Trustee.

Section 2. Identification of Facilities and Cost Estimates. This Agreement pertains to the facilities and cost estimates identified on attached Schedule A [on Schedule A, for each facility list the EPA Identification Number, name, address, and the current closure and/or post-closure cost estimates, or portions thereof, for which financial assurance is demonstrated by this Agreement].

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund, the "Fund," for the benefit of EPA. The Grantor and the Trustee intend that no third party have access to the Fund except as herein provided. The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by EPA.

Section 4. Payment for Closure and Post-Closure Care. The Trustee shall make payments from the Fund as the EPA Regional Administrator shall direct, in writing, to provide for the payment of the costs of closure and/or post-closure care of the facilities covered by this Agreement. The Trustee shall reimburse the Grantor or other persons as specified by the EPA Regional Administrator from the Fund for closure and post-closure expenditures in such amounts as the EPA Regional Administrator shall direct in writing. In addition, the Trustee shall refund to the Grantor such amounts as the EPA Regional Administrator specifies in writing. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

Section 5. Payments Comprising the Fund. Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management. The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; *except that:*

(i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2.(a), shall not be acquired or held, unless they are securities or other obligations of the Federal or a State government;

(ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or State government; and

(iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

(a) To tranfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

(b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depositary even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depositary with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. Annual Valuation. The Trustee shall annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the appropriate EPA Regional Administrator a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the EPA Regional Administrator shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation. The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the EPA Regional Administrator, and the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee. Al orders, requests, and instructions by the Grantor to the Trustee shall be in writing signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendment to Exhibit A. The Trustee shal be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the EPA Regional Administrator to the Trustee shall be i writing, signed by the EPA Regional Administrators of the Regions in which the facilities are located, or their designees, and th Trustee shall act and shall be fully protected in acting in accordance with such orders requests, and instructions. The Truste shall have the right to assume, in the absence of written notice to the contrary, tha no event constituting a change or a termination of the authority of any person to act o behalf of the Grantor or EPA hereunde has occurred. The Trustee shall have n duty to act in the absence of such orders, requests, and instructions from the Granto and/or EPA, except as provided for herein

Section 15. Notice of Nonpayment. Th Trustee shall notify the Grantor and th appropriate EPA Regional Administrato by certified mail within 10 days followin the expiration of the 30-day period after th anniversary of the establishment of th Trust, if no payment is received from th Grantor during that period. After the pa in period is completed, the Trustee shall not be required to send a notice of nonpayment.

Section 16. Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the appropriate EPA Regional Administrator, or by the Trustee and the appropriate EPA Regional Administrator if the Grantor ceases to exist.

Section 17. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 16, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the EPA Regional Administrator, or by the Trustee and the EPA Regional Administrator, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

Section 18. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the EPA Regional Administrator issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 19. Choice of Law. This Agreement shall be administered, construed, and enforced according to the laws of the State of [insert name of State].

Section 20. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each Section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

In Witness Whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written: The parties below certify that the wording of this Agreement is identical to the wording specified in 40 CFR 264.151(a)(1) as such regulations were constituted on the date first above written.

[Signature of Grantor]
[Title]
Attest:
[Title]
[Seal]
[Signature of Trustee]
Attest:
[Title]
[Seal]

(2) The following is an example of the certification of acknowledgment which must accompany the trust agreement for a trust fund as specified in §§ 264.143(a) and 264.145(a) or §§ 265.143(a) or 265.145(a) of this chapter. State requirements may differ on the proper content of this acknowledgment.

State of ————————————
County of ————————————

On this [date], before me personally came [owner or operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at [address], that she/he is [title] of [corporation], the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

[Signature of Notary Public]

(b) A surety bond guaranteeing payment into a trust fund, as specified in § 264.143(b) or § 264.145(b) or § 265.143(b) or § 265.145(b) of this chapter, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

FINANCIAL GUARANTEE BOND

Date bond executed:
Effective date:
Principal: [legal name and business address of owner or operator]
Type of Organization: [insert "individual," "joint venture," "partnership," or "corporation"]
State of incorporation: ————————
Surety(ies): [name(s) and business address(es)]
EPA Identification Number, name, address and closure and/or post-closure amount(s) for each facility guaranteed by this bond [indicate closure and post-closure amounts separately]: ————————
Total penal sum of bond: $ ————————————
Surety's bond number: ————————

Know All Persons By These Presents, That we, the Principal and Surety(ies) hereto are firmly bound to the U.S. Environmental Protection Agency (hereinafter called EPA), in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally; provided that, where the Surety(ies) are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

Whereas said Principal is required, under the Resource Conservation and Recovery Act as amended (RCRA), to have a permit or interim status in order to own or operate each hazardous waste management facility identified above, and

Whereas said Principal is required to provide financial assurance for closure, or closure and post-closure care, as a condition of the permit or interim status, and

Whereas said Principal shall establish a standby trust fund as is required when a surety bond is used to provide such financial assurance;

Now, Therefore, the conditions of the obligation are such that if the Principal shall faithfully, before the beginning of final closure of each facility identified above, fund the standby trust fund in the amount(s) identified above for the facility,

Or, if the Principal shall fund the standby trust fund in such amount(s) within 15 days after a final order to begin closure is issued by an EPA Regional Administrator or a U.S. district court or other court of competent jurisdiction,

Or, if the Principal shall provide alternate financial assurance, as specified in Subpart H of 40 CFR Part 264 or 265, as applicable, and obtain the EPA Regional Administrator's written approval of such assurance, within 90 days after the date notice of cancellation is received by both the Principal and the EPA Regional Administrator(s) from the Surety(ies), then this obligation shall be null and void; otherwise it is to remain in full force and effect.

The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above. Upon notification by an EPA Regional Administrator that the Principal has failed to perform as guaranteed by this bond, the Surety(ies) shall place funds in the amount guaranteed for the facility(ies) into the standby trust fund as directed by the EPA Regional Administrator.

The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount said penal sum.

The Surety(ies) may cancel the bond sending notice of cancellation by certifie mail to the Principal and to the EPA R gional Administrator(s) for the Region(s) which the facility(ies) is (are) located, pr vided, however, that cancellation shall n occur during the 120 days beginning on th date of receipt of the notice of cancellati by both the Principal and the EPA Region Administrator(s), as evidenced by the retu receipts.

The Principal may terminate this bond sending written notice to the Surety(ie provided, however, that no such notice sh become effective until the Surety(ie receive(s) written authorization for termin tion of the bond by the EPA Region Administrator(s) of the EPA Region(s) which the bonded facility(ies) is (are) loc ed.

[The following paragraph is an option rider that may be included but is not quired.]

Principal and Surety(ies) hereby agree adjust the penal sum of the bond yearly that it guarantees a new closure and/ post-closure amount, provided that t penal sum does not increase by more th 20 percent in any one year, and no decrea in the penal sum takes place without t written permission of the EPA Region Administrator(s).

In Witness Whereof, the Principal a Surety(ies) have executed this Financ Guarantee Bond and have affixed th seals on the date set forth above.

The persons whose signatures app below hereby certify that they are auth ized to execute this surety bond on beh of the Principal and Surety(ies) and th the wording of this surety bond is identi to the wording specified in 40 C 264.151(b) as such regulations were con tuted on the date this bond was executed.

Principal

[Signature(s)] ——————————
[Name(s)] ——————————
[Title(s)]——————————
[Corporate seal] ——————————

Corporate Surety(ies)

[Name and address]
State of incorporation:] ——————————
Liability limit: $ ——————————
[Signature(s)]
[Name(s) and title(s)]
[Corporate seal]
[For every co-surety, provide signature corporate seal, and other information in same manner as for Surety above.]
Bond premium: $ ——————————

(c) A surety bond guaranteeing performance of closure and/or post-closure care, as specified in § 264.143(c) or § 264.145(c), must be worded as follows, except that the instructions in brackets are to be replaced with the relevant information and the brackets deleted:

PERFORMANCE BOND

Date bond executed: ——————

Effective date: ——————

Principal: [legal name and business address of owner or operator]

Type of organization: [insert "individual," "joint venture," "partnership," or "corporation"]

State of incorporation: ——————

Surety(ies): [name(s) and business address(es)] ——————

EPA Identification Number, name, address, and closure and/or post-closure amount(s) for each facility guaranteed by this bond [indicate closure and post-closure amounts separately]:———

Total penal sum of bond: $ ——————

Surety's bond number: ——————

Know All Persons By These Presents, That we, the Principal and Surety(ies) hereto are firmly bound to the U.S. Environmental Protection Agency (hereinafter called EPA), in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally; provided that, where the Surety(ies) are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sum "jointly and severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

Whereas said Principal is required, under the Resource Conservation and Recovery Act as amended (RCRA), to have a permit in order to own or operate each hazardous waste management facility indentified above, and

Whereas said Principal is required to provide financial assurance for closure, or closure and post-closure care, as a condition of the permit, and

Whereas said Principal shall establish a standby trust fund as is required when a surety bond is used to provide such financial assurance;

Now, Therefore, the conditions of this obligation are such that if the Principal shall faithfully perform closure, whenever required to do so, of each facility for which this bond guarantees closure, in accordance with the closure plan and other requirements of the permit as such plan and permit may be amended, pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules, and regulations may be amended,

And, if the Principal shall faithfully perform post-closure care of each facility for which this bond guarantees post-closure care, in accordance with the post-closure plan and other requirements of the permit, as such plan and permit may be amended, pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules, and regulations may be amended,

Or, if the Principal shall provide alternate financial assurance as specified in Subpart H of 40 CFR Part 264, and obtain the EPA Regional Administrator's written approval of such assurance, within 90 days after the date notice of cancellation is received by both the Principal and the EPA Regional Administrator(s) from the Surety(ies), then this obligation shall be null and void, otherwise it is to remain in full force and effect.

The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above.

Upon notification by an EPA Regional Administrator that the Principal has been found in violation of the closure requirements of 40 CFR Part 264, for a facility for which this bond guarantees performance of closure, the Surety(ies) shall either perform closure in accordance with the closure plan and other permit requirements or place the closure amount guaranteed for the facility into the standby trust fund as directed by the EPA Regional Administrator.

Upon notification by an EPA Regional Administrator that the Principal has been found in violation of the post-closure requirements of 40 CFR Part 264 for a facility for which this bond guarantees performance of post-closure care, the Surety(ies) shall either perform post-closure care in accordance with the post-closure plan and other permit requirements or place the post-closure amount guaranteed for the facility into the standby trust fund as directed by the EPA Regional Administrator.

Upon notification by an EPA Regional Administrator that the Principal has failed to provide alternate financial assurance as specified in Subpart H of 40 CFR Part 264, and obtain written approval of such assurance from the EPA Regional Administrator(s) during the 90 days following receipt by both the Principal and the EPA Regional Administrator(s) of a notice of cancellation of the bond, the Surety(ies) shall place funds in the amount guaranteed for the facility(ies) into the standby trust fund as directed by the EPA Regional Administrator.

The surety(ies) hereby waive(s) notification of amendments to closure plans, permits, applicable laws, statutes, rules, and regulations and agrees that no such amendment shall in any way alleviate its (their) obligation on this bond.

The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said penal sum.

The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the EPA Regional Administrator(s) for the Region(s) in which the facility(ies) is (are) located, provided, however, that cancellation shall not occur during the 120 days beginning on the date of receipt of the notice of cancellation by both the Principal and the EPA Regional Administrator(s), as evidenced by the return receipts.

The principal may terminate this bond by sending written notice to the Surety(ies), provided, however, that no such notice shall become effective until the Surety(ies) receive(s) written authorization for termination of the bond by the EPA Regional Administrator(s) of the EPA Region(s) in which the bonded facility(ies) is (are) located.

[The following paragraph is an *optional* rider that may be included but is not required.]

Principal and Surety(ies) hereby agree to adjust the penal sum of the bond yearly so that it guarantees a new closure and/or post-closure amount, provided that the penal sum does not increase by more than 20 percent in any one year, and no decrease in the penal sum takes place without the written permission of the EPA Regional Administrator(s).

In Witness Whereof, The Principal and Surety(ies) have executed this Performance Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in 40 CFR 264.151(c) as such regulation was constituted on the date this bond was executed.

Principal

[Signature(s)]

[Name(s)]

[Title(s)]

[Corporate seal]

Corporate Surety(ies)

[Name and address]

State of incorporation: ————

Liability limit: $ ————

[Signature(s)]

[Name(s) and title(s)]

[Corporate seal]

[For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.]

Bond premium: $ ————

(d) A letter of credit, as specified in § 264.143(d) or § 264.145(d) or § 265.143(c) or § 265.145(c) of this chapter, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

IRREVOCABLE STANDBY LETTER OF CREDIT

Regional Administrator(s)
Region(s) ————
U.S. Environmental Protection Agency

Dear Sir or Madam: We hereby establish our Irrevocable Standby Letter of Credit No.—— in your favor, at the request and for the account of [owner's or operator's name and address] up to the aggregate amount of [in words] U.S. dollars $——, available upon presentation [insert, if more than one Regional Administrator is a beneficiary, "by any one of you"] of

(1) your sight draft, bearing reference to this letter of credit No.——, and

(2) your signed statement reading as follows: "I certify that the amount of the draft is payable pursuant to regulations issued under authority of the Resource Conservation and Recovery Act of 1976 as amended."

This letter of credit is effective as of [date] and shall expire on [date at least 1 year later], but such expiration date shall be automatically extended for a period of [at least 1 year] on [date] and on each successive expiration date, unless, at least 120 days before the current expiration date, we notify both you and [owner's or operator's name] by certified mail that we have decided not to extend this letter of credit beyond the current expiration date. In the event you are so notified, any unused portion of the credit shall be available upon presentation of your sight draft for 120 days after the date of receipt by both you and [owner's or operator's name], as shown on the signed return receipts.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us, and we shall deposit the amount of the draft directly into the standby trust fund of [owner's or operator's name] in accordance with your instructions.

We certify that the wording of this letter of credit is identical to the wording specified in 40 CFR 264.151(d) as such regulations were constituted on the date shown immediately below.

[Signature(s) and title(s) of official(s) of issuing institution] [Date]

This credit is subject to [insert "the most recent edition of the Uniform Customs and Practice for Documentary Credits, published by the International Chamber of Commerce," or "the Uniform Commercial Code"].

(e) A certificate of insurance, as specified in § 264.143(e) or § 264.145(e) or § 265.143(d) or § 265.145(d) of this chapter, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

CERTIFICATE OF INSURANCE FOR CLOSURE OR POST-CLOSURE CARE

Name and Address of Insurer (herein called the "Insurer"): ————————

Name and Address of Insured (herein called the "Insured"): ————————

Facilities Covered: [List for each facility: The EPA Identification Number, name, address, and the amount of insurance for closure and/or the amount for post-closure care (these amounts for all facilities covered must total the face amount shown below).]

Face Amount: ————————————————

Policy Number: ————————————————

Effective Date: ————————————————

The Insurer hereby certifies that it has issued to the Insured the policy of insurance identified above to provide financial assurance for [insert "closure" or "closure and post-closure care" or "post-closure care"] for the facilities identified above. The Insurer further warrants that such policy conforms in all respects with the requirements of 40 CFR 264.143(e), 264.145(e), 265.143(d), and 265.145(d), as applicable and as such regulations were constituted on the date shown immediately below. It is agreed that any provision of the policy inconsistent with such regulations is hereby amended to eliminate such inconsistency.

Whenever requested by the EPA Regional Administrator(s) of the U.S. Environmental Protection Agency, the Insurer agrees to furnish to the EPA Regional Administrator(s) a duplicate original of the policy listed above, including all endorsements thereon.

I hereby certify that the wording of this certificate is identical to the wording specified in 40 CFR 264.151(e) as such regulations were constituted on the date shown immediately below.

[Authorized signature for Insurer]

[Name of person signing]

[Title of person signing]

Signature of witness or notary: ————————

[Date]

(f) A letter from the chief financial officer, as specified in § 264.143(f) or § 264.145(f) or § 265.143(e) or § 265.145(e) of this chapter, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

LETTER FROM CHIEF FINANCIAL OFFICER

[Address to Regional Administrator of every Region in which facilities for which financial responsibility is to be demonstrated through the financial test are located.]

I am the chief financial officer of [name and address of firm]. This letter is in support of this firm's use of the financial test to demonstrate financial assurance, as specified in Subpart H of 40 CFR Parts 264 and 265.

[Fill out the following four paragraphs regarding facilities and associated cost estimates. If your firm has no facilities that belong in a particular paragraph, write "None" in the space indicated. For each facility, include its EPA Identification Number, name, address, and current closure and/or post-closure cost estimates. Identify each cost estimate as to whether it is for closure or post-closure care.]

1. This firm is the owner or operator of the following facilities for which financial assurance for closure or post-closure care is demonstrated through the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure and/or post-closure cost estimates covered by the test are shown for each facility: ———.

2. This firm guarantees, through the corporate guarantee specified in Subpart H of 40 CFR Parts 264 and 265, the closure or post-closure care of the following facilities owned or operated by subsidiaries of this firm. The current cost estimates for the closure or post-closure care so guaranteed are shown for each facility: ———.

3. In States where EPA is not administering the financial requirements of Subpart H of 40 CFR Part 264 or 265, this firm, as owner or operator or guarantor, is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure and/or post-

closure cost estimates covered by such a test are shown for each facility: ———.

4. This firm is the owner or operator of the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility, post-closure care, is *not* demonstrated either to EPA or a State through the financial test or any other financial assurance mechanism specified in Subpart H of 40 CFR Parts 264 and 265 or equivalent or substantially equivalent State mechanisms. The current closure and/or post-closure cost estimates not covered by such financial assurance are shown for each facility: ———.

This firm [insert "is required" or "is not required"] to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on [month, day]. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year, ended [date].

[Fill in Alternative I if the criteria of paragraph (f)(1)(i) of § 264.143 or § 264.145, or of paragraph (e)(1)(i) of § 265.143 or § 265.145 of this chapter are used. Fill in Alternative II if the criteria of paragraph (f)(1)(ii) of § 264.143 or § 264.145, or of paragraph (e)(1)(ii) of § 265.143 or § 265.145 of this chapter are used.]

ALTERNATIVE I

1. Sum of current closure and post-closure cost estimates [total of *all* cost estimates shown in the four paragraphs above]	$
*2. Total liabilities [if any portion of the closure or post-closure cost estimates is included in total liabilities, you may deduct the amount of that portion from this line and add that amount to lines 3 and 4]	
*3. Tangible net worth	
*4. Net worth	
*5. Current assets	
*6. Current liabilities	
7. Net working capital [line 5 minus line 6]	
*8. The sum of net income plus depreciation, depletion, and amortization	
*9. Total assets in U.S. (required only if less than 90% of firm's assets are located in the U.S.)	

	Yes	No
10. Is line 3 at least $10 million?		
11. Is line 3 at least 6 times line 1?		
12. Is line 7 at least 6 times line 1?		
*13. Are at least 90% of firm's assets located in the U.S.? If not, complete line 14.		
14. Is line 9 at least 6 times line 1?		
15. Is line 2 divided by line 4 less than 2.0?		
16. Is line 8 divided by line 2 greater than 0.1?		
17. Is line 5 divided by line 6 greater than 1.5?		

ALTERNATIVE II

1. Sum of current closure and post-closure cost estimates [total of *all* cost estimates shown in the four paragraphs above]	$———
2. Current bond rating of most recent issuance of this firm and name of rating service	———
3. Date of issuance of bond	———
4. Date of maturity of bond	———
*5. Tangible net worth [if any portion of the closure and post-closure cost estimates is included in "total liabilities" on your firm's financial statements, you may add the amount of that portion to this line]	$———
*6. Total assets in U.S. (required only if less than 90% of firm's assets are located in the U.S.)	$———

	Yes	No
7. Is line 5 at least $10 million?	——	——
8. Is line 5 at least 6 times line 1?	——	——
*9. Are at least 90% of firm's assets located in the U.S.? If not, complete line 10.	——	——
10. Is line 6 at least 6 times line 1?	——	——

I hereby certify that the wording of this letter is identical to the wording specified in 40 CFR 264.151(f) as such regulations were constituted on the date shown immediately below.

[Signature]
[Name]
[Title]
[Date]

5. This firm is the owner or operator of the following UIC facilities for which financial assurance for plugging and abandonment is required under Part 144. The current closure cost estimates as required by 40 CFR 144.62 are shown for each facility:

(g) A letter from the chief financial officer, as specified in § 264.147(f) or § 265.147(f) of this chapter, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted.

LETTER FROM CHIEF FINANCIAL OFFICER

[Address to Regional Administrator of every Region in which facilities for which financial responsibility is to be demonstrated through the financial test are located.]

I am the chief financial officer of [firm's name and address]. This letter is in support of the use of the financial test to demonstrate financial responsibility for liability coverage [insert "and closure and/or post-closure care" if applicable] as specified in Subpart H of 40 CFR Parts 264 and 265.

[Fill out the following paragraphs regarding facilities and liability coverage. If there are no facilities that belong in a particular paragraph, write "None" in the space indicated. For each facility, include its EPA Identification Number, name, and address.]

The firm identified above is the owner or operator of the following facilities for which liability coverage for [insert "sudden" or "nonsudden" or "both sudden and nonsudden"] accidental occurrences is being demonstrated through the financial test specified in Subpart H of 40 CFR Parts 264 and 265: ______.

The firm identified above guarantees, through the guarantee specified in Subpart H or 40 CFR Parts 264 and 265, liability coverage for [insert "sudden" or "nonsudden" or "both sudden and nonsudden"] accidental occurrences at the following facilities owned or operated by the following: ______. The firm identified above is [insert one or more: (1) The direct or higher-tier parent corporation of the owner or operator; (2) owned by the same parent corporation as the parent corporation of the owner or operator, and receiving the following value in consideration of this guarantee ______; or (3) engaged in the following substantial business relationship with the owner or operator ______, and receiving the following value in consideration of this guarantee ______.] [Attach a written description of the business relationship or a copy of the contract establishing such relationship to this letter.]

[If you are using the financial test to demonstrate coverage of both liability and closure and post-closure care, fill in the following four paragraphs regarding facilities and associated closure and post-closure cost estimates. If there are no facilities that belong in a particular paragraph, write "None" in the space indicated. For each facility, include its EPA Identification Number, name, address, and current closure and/or post-closure cost estimates. Identify each cost estimate as to whether it is for closure or post-closure care.]

1. The firm identified above owns or operates the following facilities for which financial assurance for closure or post-closure care or liability coverage is demonstrated through the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure and/or post-closure cost estimate covered by the test are shown for each facility: ______.

2. The firm identified above guarantees, through the guarantee specified in Subpart H of 40 CFR Parts 264 and 265, the closure and post-closure care or liability coverage of the following facilities owned or operated by the guaranteed party. The current cost estimates for the closure or post-closure care so guaranteed are shown for each facility: ______.

3. In States where EPA is not administering the financial requirements of Subpart H of 40 CFR Parts 264 and 265, this firm is demonstrating financial assurance for the closure or post-closure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in Subpart H of 40 CFR Parts 264 and 265. The current closure or post-closure cost estimates covered by such a test are shown for each facility: ______.

4. The firm identified above owns or operates the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility, post-closure care, is not demonstrated either to EPA or a State through the financial test or any other financial assurance mechanisms specified in Subpart H of 40 CFR Parts 264 and 265 or equivalent or substantially equivalent State mechanisms. The current closure and/or post-closure cost estimates not covered by such financial assurance are shown for each facility: ______.

5. This firm is the owner or operator of the following UIC facilities for which financial assurance for plugging and abandonment is required under 40 CFR Part 144. The current closure cost estimates as required by 40 CFR 144.62 are shown for each facility: ______.

This firm [insert "is required" or "is not required"] to file a Form 10K with the Securities and Exchange Commission (SEC) for the latest fiscal year.

The fiscal year of this firm ends on [month, day]. The figures for the following items marked with an asterisk are derived from this firm's independently audited, year-end financial statements for the latest completed fiscal year, ended [date].

[Fill in part A if you are using the financial test to demonstrate coverage *only* for the liability requirements.]

Part A. Liability Coverage for Accidental Occurrences

[Fill in Alternative I if the criteria of paragraph (f)(1)(i) of § 264.147 or § 265.147 are used. Fill in Alternative II if the criteria of paragraph (f)(1)(ii) of § 264.147 or § 265.147 are used.]

Alternative I

1.	Amount of annual aggregate liability coverage to be demonstrated.	$......................
*2.	Current assets......	$......................
*3.	Current liabilities.	$......................
4.	Net working capital (line 2 minus line 3).	$......................

*5. Tangible net worth. $..................
*6. If less than 90% or assets are located in the U.S., given total U.S. assets. $..................

Yes No

7. Is line 5 at least $10 million? ....
8. Is line 4 at least 6 times line 1? ....
9. Is line 5 at least 6 times line 1?
*10. Are at least 90% of assets located in the U.S.? If not, complete line 11. ....
11. Is line 6 at least 6 times line 1? ....

Alternative II

1. Amount of annual aggregate liability coverage to be demonstrated. $..................
2. Current bond rating of most recent issuance and name of rating service. ....
3. Date of issuance of bond. ....
4. Date of maturity of bond. ....
*5. Tangible net worth. $..................
*6. Total assets in U.S. (required only if less than 90% of assets are located in the U.S.). $..................

Yes No

7. Is line 5 at least $10 million? ....
8. Is line 5 at least 6 times line 1? ....
9. Are at least 90% of assets located in the U.S.? If not, complete line 10. ....
10. Is line 6 at least 6 times line 1? ....

[Fill in part B if you are using the fi cial test to demonstrate assurance of bot ability coverage *and* closure or post-clo care.]

Part B. Closure or Post-Closure Care a Liability Coverage

[Fill in Alternative I if the criteri paragraphs (f)(1)(i) of § 264.143 or § 26 and (f)(1)(i) of § 264.147 are used or if criteria of paragraphs (e)(1)(i) of § 26 or § 265.145 and (f)(1)(i) of § 265.147 used. Fill in Alternative II if the criter paragraphs (f)(1)(ii) of § 264.143 or § 26 and (f)(1)(ii) of § 264.147 are used or if criteria of paragraphs (e)(1)(ii) of § 26 or § 265.145 and (f)(1)(ii) of § 265.147 used.]

Alternative I

1. Sum of current closure and post-closure cost estimates (total of *all* cost estimates listed above). $..........
2. Amount of annual aggregate liability coverage to be demonstrated. $..........
3. Sum of lines 1 and 2. $..........
*4. Total liabilities (if any portion of your closure or post-closure cost estimates is included in your total liabilities, you may deduct that portion from this line and add that amount to lines 5 and 6). $..........

*5. Tangible net worth. $........................

*6. Net worth .... $........................

*7. Current assets...... $........................

*8. Current liabilities. $........................

9. Net working capital (line 7 minus line 8). $........................

*10. The sum of net income plus depreciation, depletion, and amortization. $........................

*11. Total assets in U.S. (required only if less than 90% of assets are located in the U.S.). $........................

	Yes	No
12. Is line 5 at least $10 million?	....	
13. Is line 5 at least 6 times line 3?	....	
14. Is line 9 at least 6 times line 3?	....	
*15. Are at least 90% of assets located in the U.S.? If not, complete line 16.	....	
16. Is line 11 at least 6 times line 3?	....	
17. Is line 4 divided by line 6 less than 2.0?	....	
18. Is line 10 divided by line 4 greater than 0.1?	....	
19. Is line 7 divided by line 8 greater than 1.5?	....	

Alternative II

1. Sum of current closure and post-closure cost estimates (total of *all* cost estimates listed above). $........................

2. Amount of annual aggregate liability coverage to be demonstrated. $........................

3. Sum of lines 1 and 2. $........................

4. Current bond rating of most recent issuance and name of rating service. ....

5. Date of issuance of bond. ....

6. Date of maturity of bond. ....

*7. Tangible net worth (if any portion of the closure or post-closure cost estimates is included in "total liabilities" on your financial statements you may add that portion to this line). $........................

*8. Total assets in the U.S. (required only if less than 90% of assets are located in the U.S.). $........................

	Yes	No
9. Is line 7 at least $10 million?	....	
10. Is line 7 at least 6 times line 3?	....	
*11. Are at least 90% of assets located in the U.S.? If not, complete line 12.	....	
12. Is line 8 at least 6 times line 3?	....	

I hereby certify that the wording of this letter is identical to the wording specified in 40 CFR 264.151(g) as such regulations were constituted on the date shown immediately below.

[Signature] ——————————

[Name] ——————————

[Title] ——————————

[Date] ——————————

(h)(1) A corporate guarantee, as specified in § 264.143(f) or § 264.145(f) or § 265.143(e) or § 265.145(e) of this chapter, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

CORPORATE GUARANTEE FOR CLOSURE OR POST-CLOSURE CARE

Guarantee made this [date] by [name of guaranteeing entity], a business corporation organized under the laws of the State of [insert name of State], herein referred to as guarantor, to the United States Environmental Protection Agency (EPA), obligee, on behalf of our subsidiary [owner or operator] of [business address].

Recitals

1. Guarantor meets or exceeds the financial test criteria and agrees to comply with the reporting requirements for guarantors as specified in 40 CFR 264.143(f), 264.145(f), 265.143(e), and 265.145(e).

2. [Owner or operator] owns or operates the following hazardous waste management facility(ies) covered by this guarantee: [List for each facility: EPA Identification Number, name, and address. Indicate for each whether guarantee is for closure, post-closure care, or both.]

3. "Closure plans" and "post-closure plans" as used below refer to the plans maintained as required by Subpart G of 40 CFR Parts 264 and 265 for the closure and post-closure care of facilities as identified above.

4. For value received from [owner or operator], guarantor guarantees to EPA that in the event that [owner or operator] fails to perform [insert "closure," "post-closure care" or "closure and post-closure care"] of the above facility(ies) in accordance with the closure or post-closure plans and other permit or interim status requirements whenever required to do so, the guarantor shall do so or establish a trust fund as specified in Subpart H of 40 CFR Part 264 or 265, as applicable, in the name of [owner or operator] in the amount of the current closure or post-closure cost estimates as specified in Subpart H of 40 CFR Parts 264 and 265.

5. Guarantor agrees that if, at the end of any fiscal year before termination of this guarantee, the guarantor fails to meet the financial test criteria, guarantor shall send within 90 days, by certified mail, notice to the EPA Regional Administrator(s) for the Region(s) in which the facility(ies) is (are) located and to [owner or operator] that he intends to provide alternate financial assurance as specified in Subpart H of 40 CFR Part 264 or 265, as applicable, in the name of [owner or operator]. Within 120 days after the end of such fiscal year, the guarantor shall establish such financial assurance unless [owner or operator] has done so.

6. The guarantor agrees to notify the EPA Regional Administrator by certified mail, of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming guarantor as debtor, within 10 days after commencement of the proceeding.

7. Guarantor agrees that within 30 days after being notified by an EPA Regional Administrator of a determination that guarantor no longer meets the financial test criteria or that he is disallowed from continuing as a guarantor of closure or post-closure care, he shall establish alternate financial assurance as specified in Subpart H of 40 CFR Part 264 or 265, as applicable, in the name of [owner or operator] unless [owner or operator] has done so.

8. Guarantor agrees to remain bound under this guarantee notwithstanding any or all of the following: amendment or modification of the closure or post-closure plan, amendment or modification of the permit, the extension or reduction of the time of performance of closure or post-closure, or any other modification or alteration of an obligation of the owner or operator pursuant to 40 CFR Part 264 or 265.

9. Guarantor agrees to remain bound under this guarantee for so long as [owner or operator] must comply with the applicable financial assurance requirements of Subpart H of 40 CFR Parts 264 and 265 for the above-listed facilities, except that guarantor may cancel this guarantee by sending notice by certified mail to the EPA Regional Administrator(s) for the Region(s) in which the facility(ies) is (are) located and to [owner or operator], such cancellation to become effective no earlier than 120 days after receipt of such notice by both EPA and [owner or operator], as evidenced by the return receipts.

10. Guarantor agrees that if [owner or operator] fails to provide alternate financial assurance as specified in Subpart H of 40 CFR Part 264 or 265, as applicable, and obtain written approval of such assurance from the EPA Regional Administrator(s) within 90 days after a notice of cancellation by the guarantor is received by an EPA Regional Administrator from guarantor, guarantor shall provide such alternate financial assurance in the name of [owner or operator].

11. Guarantor expressly waives notice of acceptance of this guarantee by the EPA or by [owner or operator]. Guarantor also expressly waives notice of amendments or modifications of the closure and/or post-closure plan and of amendments or modifications of the facility permit(s).

I hereby certify that the wording of this guarantee is identical to the wording specified in 40 CFR 264.151(h) as such regulations were constituted on the date first above written.

Effective date: ——————————
[Name of guarantor]
[Authorized signature for guarantor]
[Name of person signing]
[Title of person signing]
Signature of witness or notary: ——————

(2) A guarantee, as specified in § 264.147(g) or § 265.147(g) of this chapter, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

GUARANTEE FOR LIABILITY COVERAGE

Guarantee made this [date] by [name of guaranteeing entity], a business corporation organized under the laws of [if incorporated within the United States insert "the State of ——" and insert name of State; if incorporated outside the United States insert the name of the country in which incorporated, the principal place of business within the United States, and the name and address of the registered agent in the State of the principal place of business], herein referred to as guarantor. This guarantee is made on behalf of our subsidiary [owner or operator] of [business address], to any and all third parties who have sustained or may sustain bodily injury or property damage caused by [sudden and/or nonsudden] accidental occurrences arising from operation of the facility(ies) covered by this guarantee.

RECITALS

1. Guarantor meets or exceeds the financial test criteria and agrees to comply with the reporting requirements for guarantors as specified in 40 CFR 264.147(g) and 265.147(g).

2. [Owner or operator] owns or operates the following hazardous waste management facility(ies) covered by this guarantee: [List for each facility: EPA Identification Number, name, and address; and if guarantor is incorporated outside the United States list the name and address of the guarantor's registered agent in each State.] This corporate guarantee satisfies RCRA third-party liability requirements for [insert "sudden" or "nonsudden" or "both sudden and nonsudden"] accidental occurrences in above-named owner or operator facilities for coverage in the amount of [insert dollar amount] for each occurrence and [insert dollar amount] annual aggregate.

3. For value received from [owner or operator], guarantor guarantees to any and all third parties who have sustained or may sustain bodily injury or property damage caused by [sudden and/or nonsudden] accidental occurrences arising from operations of the facility(ies) covered by this guarantee that in the event that [owner or operator] fails to satisfy a judgment or award based on a determination of liability for bodily injury or property damage to third parties caused by [sudden and/or nonsudden] accidental occurrences, arising from the operation of the above-named facilities, or fails to pay an amount agreed to in settlement of a claim arising from or alleged to arise from such injury or damage, the guarantor will satisfy such judgment(s), award(s) or settlement agreement(s) up to the limits of coverage identified above.

4. Such obligation does not apply to any of the following:

(a) Bodily injury or property damage for which [insert owner or operator] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert owner or operator] would be obligated to pay in the absnce of the contract or agreement.

(b) Any obligation of [insert owner or operator] under a workers' compensation, disability benefits, or unemployment compensation law or any similar law.

(c) Bodily injury to:

(1) An employee of [insert owner or operator] arising from, and in the course of, employment by [insert owner or operator]; or

(2) The spouse, child, parent, brother or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert owner or operator]. This exclusion applies:

(A) Whether [insert owner or operator] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

(1) Any property owned, rented, or occupied by [insert owner or operator];

(2) Premises that are sold, given away or abandoned by [insert owner or operator] if the property damage arises out of any part of those premises;

(3) Property loaned to [insert owner or operator];

(4) Personal property in the care, custody or control of [insert owner or operator];

(5) That particular part of real property on which [insert owner or operator] or any contractors or subcontractors working directly or indirectly on behalf of [insert owner or operator] are performing operations, if the property damage arises out of these operations.

5. Guarantor agrees that if, at the end of any fiscal year before termination of this guarantee, the guarantor fails to meet the financial test criteria, guarantor shall send within 90 days, by certified mail, notice to the EPA Regional Administrator[s] for the Region[s] in which the facility[ies] is[are] located and to [owner or operator] that he intends to provide alternate liability coverage as specified in 40 CFR 264.147 and 265.147, as applicable, in the name of [owner or operator]. Within 120 days after the end of such fiscal year, the guarantor shall establish such liability coverage unless [owner or operator] has done so.

6. The guarantor agrees to notify the EPA Regional Administrator by certified mail of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming guarantor as debtor, within 10 days after commencement of the proceeding.

7. Guarantor agrees that within 30 days after being notified by an EPA Regional Administrator of a determination that guarantor no longer meets the financial test criteria or that he is disallowed from continuing as a guarantor, he shall establish alternate liability coverage as specified in 40 CFR 264.147 or 265.147 in the name of [owner or operator], unless [owner or operator] has done so.

8. Guarantor reserves the right to modify this agreement to take into account amendment or modification of the liability requirements set by 40 CFR 264.147 and 265.147, provided that such modification shall become effective only if a Regional Administrator does not disapprove the modification within 30 days of receipt of notification of the modification.

9. Guarantor agrees to remain bound under this guarantee for so long as [owner or operator] must comply with the applicable requirements of 40 CFR 264.147 and 265.147 for the above-listed facility(ies), except as provided in paragraph 9 of this agreement.

10. [Insert the following language if the guarantor is (a) a direct or higher-tier corporate parent, or (b) a firm whose parent corporation is also the parent corporation of the owner or operator]:

Guarantor may terminate this guarantee by sending notice by certified mail to the EPA Regional Administrator(s) for the Region(s) in which the facility(ies) is(are) located and to [owner or operator], provided that this guarantee may not be terminated unless and until [the owner or operator] obtains, and the EPA Regional Administrator(s) approve(s), alternate liability coverage complying with 40 CFR 264.147 and/or 265.147.

[Insert the following language if the guarantor is a firm qualifying as a guarantor due to its "substantial business relationship" with the owner or operator]:

Guarantor may terminate this guarantee 120 days following receipt of notification, through certified mail, by the EPA Regional Administrator(s) for the Region(s) in which the facility(ies) is(are) located and by [the owner or operator].

11. Guarantor hereby expressly waives notice of acceptance of this guarantee by any party.

12. Guarantor agrees that this guarantee is in addition to and does not affect any other responsibility or liability of the guarantor with respect to the covered facilities.

13. The Guarantor shall satisfy a third-party liability claim only on receipt of one of the following documents:

(a) Certification from the Principal and the third-party claimant(s) that the liability claim should be paid. The certification must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

CERTIFICATION OF VALID CLAIM

The undersigned, as parties [insert Principal] and [insert name and address of third-party claimant(s)], hereby certify that the claim of bodily injury and/or propert damage cuased by a [sudden or nonsudden accidental occurrence arising from operating [Principal's] hazardous waste treatment storage, or disposal facility should be pai in the amount of $[ ].

[Signatures]
Principal

(Notary) Date

[Signatures]
Claimant(s)

(Notary) Date

(b) A valid final court order establishing judgment against the Principal for bodil injury or property damage caused b sudden or nonsudden accidental occurrence arising from the operation of the Principal' facility or group of facilities.

14. In the event of combination of thi guarantee with another mechanism to mee liability requirements, this guarantee will b considered [insert "primary" or "excess" coverage.

I hereby certify that the wording of th guarantee is identical to the wording spec fied in 40 CFR 264.151(h)(2) as such regul tions were constituted on the date shown immediately below.

Effective date: ——————————

[Name of guarantor]
[Authorized signature for guarantor]
[Name of person signing]
[Title of person signing]
Signature of witness of notary:

(i) A hazardous waste facility liability endorsement as required in § 264.147 or § 265.147 must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

HAZARDOUS WASTE FACILITY LIABILITY ENDORSEMENT

1. This endorsement certifies that the policy to which the endorsement is attached provides liability insurance covering bodily injury and property damage in connection with the insured's obligation to demonstrate financial responsibility under 40 CFR 264.147 or 265.147. The coverage applies at [list EPA Identification Number, name, and address for each facility] for [insert "sudden accidental occurrences," "nonsudden accidental occurrences," or "sudden and nonsudden accidental occurrences"; if coverage is for multiple facilities and the coverage is different for different facilities, indicate which facilities are insured for sudden accidental occurrences, which are insured for nonsudden accidental occurrences, and which are insured for both]. The limits of liability are [insert the dollar amount of the "each occurrence" and "annual aggregate" limits of the Insurer's liability], exclusive of legal defense costs.

2. The insurance afforded with respect to such occurrences is subject to all of the terms and conditions of the policy; provided, however, that any provisions of the policy inconsistent with subsections (a) through (e) of this Paragraph 2 are hereby amended to conform with subsections (a) through (e):

(a) Bankruptcy or insolvency of the insured shall not relieve the Insurer of its obligations under the policy to which this endorsement is attached.

(b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in 40 CFR 264.147(f) or 265.147(f).

(c) Whenever requested by a Regional Administrator of the U.S. Environmental Protection Agency (EPA), the Insurer agrees to furnish to the Regional Administrator a signed duplicate original of the policy and all endorsements.

(d) Cancellation of this endorsement, whether by the Insurer, the insured, a parent corporation providing insurance coverage for its subsidiary, or by a firm having an insurable interest in and obtaining liability insurance on behalf of the owner or operator of the hazardous waste management facility, will be effective only upon written notice and only after the expiration of 60 days after a copy of such written notice is received by the Regional Administrator(s) of the EPA Region(s) in which the facility(ies) is(are) located.

(e) Any other termination of this endorsement will be effective only upon written notice and only after the expiration of thirty (30) days after a copy of such written notice is received by the Regional Administrator(s) of the EPA Region(s) in which the facility(ies) is (are) located.

Attached to and forming part of policy No. ——— issued by [name of Insurer], herein called the Insurer, of [address of Insurer] to [name of insured] of [address] this — day of ———, 19—. The effective date of said policy is — day of ———, 19—.

I hereby certify that the wording of this endorsement is identical to the wording specified in 40 CFR 264.151(i) as such regulation was constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

[Signature of Authorized Representative of Insurer]
[Type name]
[Title], Authorized Representive of [name of Insurer]
[Address of Representative]

(j) A certificate of liability insurance as required in § 264.147 or § 265.147 must be worded as follows, except that the instructions in brackets are to be replaced with the relevant information and the brackets deleted:

HAZARDOUS WASTE FACILITY CERTIFICATE OF LIABILITY INSURANCE

1. [Name of Insurer], (the "Insurer"), of [address of Insurer] hereby certifies that it has issued liability insurance covering bodily injury and property damage to [name of insured], (the "insured"), of [address of insured] in connection with the insured's obligation to demonstrate financial responsibility under 40 CFR 264.147 or 265.147. The coverage applies at [list EPA Identification Number, name, and address for each facility] for [insert "sudden acci-

dental occurrences," "nonsudden accidental occurrences," or "sudden and nonsudden accidental occurrences"; if coverage is for multiple facilities and the coverage is different for different facilities, indicate which facilities are insured for sudden accidental occurrences, which are insured for nonsudden accidental occurrences, and which are insured for both]. The limits of liability are [insert the dollar amount of the "each occurrence" and "annual aggregate" limits of the Insurer's liability], exclusive of legal defense costs. The coverage is provided under policy number ——, issued on [date]. The effective date of said policy is [date].

2. The Insurer further certifies the following with respect to the insurance described in Paragraph 1:

(a) Bankruptcy or insolvency of the insured shall not relieve the Insurer of its obligations under the policy.

(b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in 40 CFR 264.147(f) or 265.147(f).

(c) Whenever requested by a Regional Administrator of the U.S. Environmental Protection Agency (EPA), the Insurer agrees to furnish to the Regional Administrator a signed duplicate original of the policy and all endorsements.

(d) Cancellation of the insurance, whether by the insurer, the insured, a parent corportation providing insurance coverage for its subsidiary, or by a firm having an insurable interest in and obtaining liability insurance on behalf of the owner or operator of the hazardous waste management facility, will be effective only upon written notice and only after the expiration of 60 days after a copy of such written notice is received by the Regional Administrator(s) of the EPA Region(s) in which the facility(ies) is(are) located.

(e) Any other termination of the insurance will be effective only upon written notice and only after the expiration of thirty (30) days after a copy of such written notice is received by the Regional Administrator(s) of the EPA Region(s) in which the facility(ies) is (are) located.

I hereby certify that the wording of this instrument is identical to the wording specified in 40 CFR 264.151(j) as such regulation was constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

[Signature of authorized representative of Insurer]
[Type name]
[Title], Authorized Representative of [na
of Insurer]
[Address of Representative]

(k) A letter of credit, as specified
§ 264.147(h) or § 265.147(h) of t
chapter, must be worded as follo
except that instructions in brack
are to be replaced with the relevant
formation and the brackets deleted:

IRREVOCABLE STANDBY LETTER OF CREDIT

Name and Address of Issuing Institution
Regional Administrator(s)
Region(s)
U.S. Environmental Protection Agency

Dear Sir or Madam: We hereby establ
our Irrevocable Standby Letter of Cre
No. ______ in the favor of any and
third-party liability claimants, at the
quest and for the account of [owner's or
erator's name and address] for third-pa
liability awards or settlements up to
words] U.S. dollars $______ per occurre
and the annual aggregate amount of
words] U.S. dollars $______, for sudden
cidental occurrences and/or for third-pa
liability awards or settlements up to
amount of [in words] U.S. dollars $___
per occurrence, and the annual aggre
amount of [in words] U.S. dollars $___
for nonsudden accidental occurrences a
able upon presentation of a sight dr
bearing reference to this letter of credit
______, and (1) a signed certificate rea
as follows:

CERTIFICATION OF VALID CLAIM

The undersigned, as parties [insert pri
pal] and [insert name and address of th
party claimants], hereby certify that
claim of bodily injury [and/or] prop
damage caused by a [sudden or nonsud
accidental occurrence arising from o
ations of [principal's] hazardous w
treatment, storage, or disposal fac
should be paid in the amount of $___
We hereby certify that the claim does
apply to any of the following:

(a) Bodily injury or property damage
which [insert principal] is obligated to
damages by reason of the assumption
ability in a contract or agreement. This
clusion does not apply to liability for
ages that [insert principal] would be
gated to pay in the absence of the cont
or agreement.

(b) Any obligation of [insert princ
under a workers' compensation, disab
benefits, or unemployment compens
law or any similar law.

(c) Bodily injury to:

(1) An employee of [insert principal]
ing from, and in the course of, employ
by [insert principal]; or

(2) The spouse, child, parent, brother or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert principal].

This exclusion applies:

(A) Whether [insert principal] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

(1) Any property owned, rented, or occupied by [insert principal];

(2) Premises that are sold, given away or abandoned by [insert principal] if the property damage arises out of any part of those premises;

(3) Property loaned to [insert principal];

(4) Personal property in the care, custody or control of [insert principal];

(5) That particular part of real property on which [insert principal] or any contractors or subcontractors working directly or indirectly on behalf of [insert principal] are performing operations, if the property damage arises out of these operations.

[Signatures]
Principal

[Signatures]
Claimant(s)

or (2) a valid final court order establishing a judgment against the principal for bodily injury or property damage caused by a sudden or nonsudden accidental occurrence arising from operation of the principal's facility or group of facilities.

This letter of credit is effective as of [date] and shall expire on [date at least one year later], but such expiration date shall be automatically extended for a period of [at least one year] on [date] and on each successive expiration date, unless, at least 120 days before the current expiration date, we notify you, the USEPA Regional Administrator for Region [Region #], and [owner's or operator's name] by certified mail that we have decided not to extend this letter of credit beyond the current expiration date.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us.

In the event that this letter of credit is used in combination with another mechanism for liability coverage, this letter of credit shall be considered [insert "primary" or "excess"] coverage.

We certify that the wording of this letter of credit is identical to the wording specified in 40 CFR 264.151(k) as such regulations were constituted on the date shown immediately below.

[Signature(s) and title(s) of official(s) of issuing institution]
[Date]

This credit is subject to [insert "the most recent edition of the Uniform Customs and Practice for Documentary Credits, published by the International Chamber of Commerce" or "the Uniform Commercial Code"].

(l) A surety bond, as specified in § 264.147(h) or § 265.147(h) of this chapter, must be worded as follows: except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

Payment Bond

Surety Bond No. [Insert number]

Parties [Insert name and address of owner or operator], Principal, incorporated in [Insert State of incorporation] of [Insert city and State of principal place of business] and [Insert name and address of surety company(ies)], Surety Company(ies), of [Insert surety(ies) place of business].

EPA Identification Number, name, and address for each facility guaranteed by this bond: ______

	Sudden accidental occurrences	Nonsudden accidental occurrences
Penal Sum Per Occurrence	[insert amount]	[insert amount]
Annual Aggregate	[insert amount]	[insert amount]

Purpose: This is an agreement between the Surety(ies) and the Principal under which the Surety(ies), its(their) successors and assignees, agree to be responsible for the payment of claims against the Principal for bodily injury and/or property damage to third parties caused by ["sudden" and/or "nonsudden"] accidental occurrences arising from operations of the facility or group of facilities in the sums prescribed herein; subject to the governing provisions and the following conditions.

Governing Provisions:

(1) Section 3004 of the Resource Conservation and Recovery Act of 1976, as amended.

(2) Rules and regulations of the U.S. Environmental Protection Agency (EPA), particularly 40 CFR ["§ 264.147" or "§ 265.147"] (if applicable).

(3) Rules and regulations of the governing State agency (if applicable) [insert citation].

Conditions:

(1) The Principal is subject to the applicable governing provisions that require the

Principal to have and maintain liability coverage for bodily injury and property damage to third parties caused by ["sudden" and/or "nonsudden"] accidental occurrences arising from operations of the facility or group of facilities. Such obligation does not apply to any of the following:

(a) Bodily injury or property damage for which [insert principal] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert principal] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert principal] under a workers' compensation, disability benefits, or unemployment compensation law or similar law.

(c) Bodily injury to:

(1) An employee of [insert principal] arising from, and in the course of, employment by [insert principal]; or

(2) The spouse, child, parent, brother or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert principal]. This exclusion applies:

(A) Whether [insert principal] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

(1) Any property owned, rented, or occupied by [insert principal];

(2) Premises that are sold, given away or abandoned by [insert principal] if the property damage arises out of any part of those premises;

(3) Property loaned to [insert principal];

(4) Personal property in the care, custody or control of [insert principal];

(5) That particular part of real property on which [insert principal] or any contractors or subcontractors working directly or indirectly on behalf of [insert principal] are performing operations, if the property damage arises out of these operations.

(2) This bond assures that the Principal will satisfy valid third party liability claims, as described in condition 1.

(3) If the Principal fails to satisfy a valid third party liability claim, as described above, the Surety(ies) becomes liable on this bond obligation.

(4) The Surety(ies) shall satisfy a third party liability claim only upon the receipt of one of the following documents:

(a) Certification from the Principal and the third party claimant(s) that the liability claim should be paid. The certification must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

CERTIFICATION OF VALID CLAIM

The undersigned, as parties [insert name of Principal] and [insert name and address of third party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidental occurrence arising from operating [Principal's] hazardous waste treatment, storage, or disposal facility should be paid in the amount of $[ ].

[Signature]
Principal

[Notary] Date

[Signature(s)]
Claimant(s)

[Notary] Date

or (b) A valid final court order establishing a judgment against the Principal for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Principal's facility or group of facilities.

(5) In the event of combination of this bond with another mechanism for liability coverage, this bond will be considered [insert "primary" or "excess"] coverage.

(6) The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond. In no event shall the obligation of the Surety(ies) hereunder exceed the amount of said annual aggregate penal sum, provided that the Surety(ies) furnish(es) notice to the Regional Administrator forthwith of all claims filed and payments made by the Surety(ies) under this bond.

(7) The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the Principal and the USEPA Regional Administrator for Region [Region #], provided, however, that cancellation shall not occur during the 120 days beginning on the date of receipt of the notice of cancellation by the Principal and the Regional Administrator, as evidenced by the return receipt.

(8) The Principal may terminate this bond by sending written notice to the Surety(ies) and to the EPA Regional Administrator(s) of the EPA Region(s) in which the bonded facility(ies) is (are) located.

(9) The Surety(ies) hereby waive(s) notification of amendments to applicable laws, statutes, rules and regulations and agree(s) that no such amendment shall in any way alleviate its (their) obligation on this bond.

(10) This bond is effective from [insert date] (12:01 a.m., standard time, at the address of the Principal as stated herein) and shall continue in force until terminated as described above.

In Witness Whereof, the Principal and Surety(ies) have executed this Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in 40 CFR 264.151(l), as such regulations were constituted on the date this bond was executed.

PRINCIPAL

[Signature(s)]
[Name(s)]
[Title(s)]
[Corporate Seal]

CORPORATE SURETY[IES]

[Name and address]
State of incorporation: ————————
Liability Limit: $ ————————
[Signature(s)]
[Name(s) and title(s)]
[Corporate seal]
[For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.]
Bond premium: $ ————————

(m)(1) A trust agreement, as specified in § 264.147(j) or § 265.147(j) of this chapter, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

TRUST AGREEMENT

Trust Agreement, the "Agreement," entered into as of [date] by and between [name of the owner or operator] a [name of State] [insert "corporation," "partnership," "association," or "proprietorship"], the "Grantor," and [name of corporate trustee], [insert, "incorporated in the State of ———" or "a national bank"], the "trustee."

Whereas, the United States Environmental Protection Agency, "EPA," an agency of the United States Government, has established certain regulations applicable to the Grantor, requiring that an owner or operator of a hazardous waste management facility or group of facilities must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental and/or nonsudden accidental occurrences arising from operations of the facility or group of facilities.

Whereas, the Grantor has elected to establish a trust to assure all or part of such financial responsibility for the facilities identified herein.

Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee.

Now, therefore, the Grantor and the Trustee agree as follows:

Section 1. *Definitions.* As used in this Agreement:

(a) The term "Grantor" means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.

Section 2. *Identification of Facilities.* This agreement pertains to the facilities identified on attached schedule A [on schedule A, for each facility list the EPA Identification Number, name, and address of the facility(ies) and the amount of liability coverage, or portions thereof, if more than one instrument affords combined coverage as demonstrated by this Agreement].

Section 3. *Establishment of Fund.* The Grantor and the Trustee hereby establish a trust fund, hereinafter the "Fund," for the benefit of any and all third parties injured or damaged by [sudden and/or nonsudden] accidental occurrences arising from operation of the facility(ies) covered by this guarantee, in the amounts of ——— [up to $1 million] per occurrence and ——— [up to $2 million] annual aggregate for sudden accidental occurrences and ——— [up to $3 million] per occurrence and ——— [up to $6 million] annual aggregate for nonsudden occurrences, except that the Fund is not established for the benefit of third parties for the following:

(a) Bodily injury or property damage for which [insert Grantor] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert Grantor] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert Grantor] under a workers' compensation, disability benefits, or unemployment compensation law or any similar law.

(c) Bodily injury to:

(1) An employee of [insert Grantor] arising from, and in the course of, employment by [insert Grantor]; or

(2) The spouse, child, parent, brother or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert Grantor].

This exclusion applies:

(A) Whether [insert Grantor] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

(1) Any property owned, rented, or occupied by [insert Grantor];

(2) Premises that are sold, given away or abandoned by [insert Grantor] if the property damage arises out of any part of those premises;

(3) Property loaned to [insert Grantor];

(4) Personal property in the care, custody or control of [insert Grantor];

(5) That particular part of real property on which [insert Grantor] or any contractors or subcontractors working directly or indirectly on behalf of [insert Grantor] are performing operations, if the property damage arises out of these operations.

In the event of combination with another mechanism for liability coverage, the fund shall be considered [insert "primary" or "excess"] coverage.

The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by EPA.

Section 4. *Payment for Bodily Injury or Property Damage.* The Trustee shall satisfy a third party liability claim by making payments from the Fund only upon receipt of one of the following documents;

(a) Certification from the Grantor and the third party claimant(s) that the liability claim should be paid. The certification must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

CERTIFICATION OF VALID CLAIM

The undersigned, as parties [insert Grantor] and [insert name and address of third party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidental occurrence arising from operating [Grantor's] hazardous waste treatment, storage, or disposal facility should be paid in the amount of $[ ].

[Signatures]
Grantor

[Signatures]
Claimant(s)

(b) A valid final court order establishing a judgment against the Grantor for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Grantor's facility or group of facilities.

Section 5. *Payments Comprising the Fund.* Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. *Trustee Management.* The Trustee shall invest and reinvest the principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstance then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims *except that*:

(i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2.(a), shal not be acquired or *held* unless they are securities or other obligations of the Federal o a State government;

(ii) The Trustee is authorized to invest th Fund in time or demand deposits of th Trustee, to the extent insured by an agenc of the Federal or State government; and

(iii) The Trustee is authorized to hol cash awaiting investment or distribution uninvested for a reasonable time and withou liability for the payment of interest thereon.

Section 7. *Commingling and Investmen* The Trustee is expressly authorized in i discretion:

(a) To transfer from time to time any all of the assets of the Fund to any commo commingled, or collective trust fund creat by the Trustee in which the fund is eligib to participate, subject to all of the prov sions thereof, to be commingled with th assets of other trusts participating therei and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 81a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. *Express Powers of Trustee.* Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

(b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depositary even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depositary with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. *Taxes and Expenses.* All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. *Annual Valuations.* The Trustee shall annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the appropriate EPA Regional Administrator a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the EPA Regional Administrator shall constitute a conclusively binding assent by the Grantor barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. *Advice of Counsel.* The Trustee may from time to time consult with counsel, who may be counsel to the Grantor with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. *Trustee Compensation.* The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. *Successor Trustee.* The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the EPA Regional Administrator, and the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this section shall be paid as provided in Section 9.

Section 14. *Instructions to the Trustee.* All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendments to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the EPA Regional Administrator to the Trustee shall be in writing, signed by the EPA Regional Administrators of the Regions in which the facilities are located, or their designees, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or EPA hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or EPA, except as provided for herein.

Section 15. *Notice of Nonpayment.* If a payment for bodily injury or property damage is made under Section 4 of this trust, the Trustee shall notify the Grantor of such payment and the amount(s) thereof within five (5) working days. The Grantor shall, on or before the anniversary date of the establishment of the Fund following such notice, either make payments to the Trustee in amounts sufficient to cause the trust to return to its value immediately prior to the payment of claims under Section 4, or shall provide written proof to the Trustee that other financial assurance for liability coverage has been obtained equalling the amount necessary to return the trust to its value prior to the payment of claims. If the Grantor does not either make payments to the Trustee or provide the Trustee with such proof, the Trustee shall within 10 working days after the anniversary date of the establishment of the Fund provide a written notice of nonpayment to the EPA Regional Administrator.

Section 16. *Amendment of Agreement.* This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the appropriate EPA Regional Administrator, or by the Trustee and the appropriate EPA Regional Administrator if the Grantor ceases to exist.

Section 17. *Irrevocability and Termination.* Subject to the right of the parties to amend this Agreement as provided in Section 16, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the EPA Regional Administrator, or by the Trustee and the EPA Regional Administrator, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

The Regional Administrator will agree to termination of the Trust when the owner or operator substitutes alternate financial assurance as specified in this section.

Section 18. *Immunity and Indemnification.* The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the EPA Regional Administrator issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 19. *Choice of Law.* This Agreement shall be administered, construed, and enforced according to the laws of the State of [enter name of State].

Section 20. *Interpretation.* As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

In Witness Whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written. The parties below certify that the wording of this Agreement is identical to the wording specified in 40 CFR 264.151(m) as such regulations were constituted on the date first above written.

[Signature of Grantor]
[Title]

Attest:

[Title]
[Seal]

[Signature of Trustee]

Attest:

[Title]
[Seal]

(2) The following is an example of the certification of acknowledgement which must accompany the trust agreement for a trust fund as specified in §§ 264.147(j) or 265.147(j) of this chapter. State requirements may differ on the proper content of this acknowledgement.

State of ————————————
County of ————————————

On this [date], before me personally came [owner or operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at [address], that she/he is [title] of [corporation], the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

[Signature of Notary Public]

[Approved by the Office of Management and Budget under control number 2000-0445, for paragraphs (g), (i), and (j))

[47 FR 15059, Apr. 7, 1982, as amended at 47 FR 16556, Apr. 16, 1982; 47 FR 17989, Apr. 27, 1982; 47 FR 19995, May 10, 1982; 47 FR 28627, July 1, 1982; 51 FR 16450, May 2, 1986; 51 FR 25354, July 11, 1986; 52 FR 44320, Nov. 18, 1987; 53 FR 33952, Sept. 1, 1988]

Subpart I—Use and Management of Containers

SOURCE: 46 FR 2866, Jan. 12, 1981, unless otherwise noted.

§ 264.170 Applicability.

The regulations in this subpart apply to owners and operators of all hazardous waste facilities that store containers of hazardous waste, except as § 264.1 provides otherwise.

[*Comment:* Under § 261.7 and § 261.33(c), if a hazardous waste is emptied from a container the residue remaining in the container is not considered a hazardous waste if the container is "empty" as defined in § 261.7. In that event, management of the container is exempt from the requirements of this subpart.]

§ 264.171 Condition of containers.

If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the owner or operator must transfer the hazardous waste from this container to a container that is in good condition or manage the waste in some other way that complies with the requirements of this part.

§ 264.172 Compatibility of waste with containers.

The owner or operator must use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired.

§ 264.173 Management of containers.

(a) A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.

(b) A container holding hazardous waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.

[*Comment:* Reuse of containers in transportation is governed by U.S. Department of Transportation regulations including those set forth in 49 CFR 173.28.]

§ 264.174 Inspections.

At least weekly, the owner or operator must inspect areas where containers are stored, looking for leaking containers and for deterioration of containers and the containment system caused by corrosion or other factors.

[*Comment:* See §§ 264.15(c) and 264.171 for remedial action required if deterioration or leaks are detected.]

§ 264.175 Containment.

(a) Container storage areas must have a containment system that is designed and operated in accordance with paragraph (b) of this section, except as otherwise provided by paragraph (c) of this section.

(b) A containment system must be designed and operated as follows:

(1) A base must underly the containers which is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed;

(2) The base must be sloped or the containment system must be otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation, unless the containers are elevated or are otherwise protected from contact with accumulated liquids;

(3) The containment system must have sufficient capacity to contain 10% of the volume of containers or the volume of the largest container, whichever is greater. Containers that

do not contain free liquids need not be considered in this determination;

(4) Run-on into the containment system must be prevented unless the collection system has sufficient excess capacity in addition to that required in paragraph (b)(3) of this section to contain any run-on which might enter the system; and

(5) Spilled or leaked waste and accumulated precipitation must be removed from the sump or collection area in as timely a manner as is necessary to prevent overflow of the collection system.

[*Comment:* If the collected material is a hazardous waste under Part 261 of this Chapter, it must be managed as a hazardous waste in accordance with all applicable requirements of Parts 262 through 266 of this chapter. If the collected material is discharged through a point source to waters of the United States, it is subject to the requirements of section 402 of the Clean Water Act, as amended.]

(c) Storage areas that store containers holding only wastes that do not contain free liquids need not have a containment system defined by paragraph (b) of this section, except as provided by paragraph (d) of this section or provided that:

(1) The storage area is sloped or is otherwise designed and operated to drain and remove liquid resulting from precipitation, or

(2) The containers are elevated or are otherwise protected from contact with accumulated liquid.

(d) Storage areas that store containers holding the wastes listed below that do not contain free liquids must have a containment system defined by paragraph (b) of this section:

(1) FO20, FO21, FO22, FO23, FO26, and FO27.

(2) [Reserved]

[46 FR 55112, Nov. 6, 1981, as amended at 50 FR 2003, Jan. 14, 1985]

§ 264.176 Special requirements for ignitable or reactive waste.

Containers holding ignitable or reactive waste must be located at least 15 meters (50 feet) from the facility's property line.

[*Comment:* See § 264.17(a) for additional requirements.]

§ 264.177 Special requirements for incompatible wastes.

(a) Incompatible wastes, or incompatible wastes and materials (see Appendix V for examples), must not be placed in the same container, unless § 264.17(b) is complied with.

(b) Hazardous waste must not be placed in an unwashed container that previously held an incompatible waste or material.

[*Comment:* As required by § 264.13, the waste analysis plan must include analyses needed to comply with § 264.177. Also, § 264.17(c) requires wastes analyses, trial tests or other documentation to assure compliance with § 264.17(b). As required by § 264.73, the owner or operator must place the results of each waste analysis and trial test, and any documented information, in the operating record of the facility.]

(c) A storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments must be separated from the other materials or protected from them by means of a dike, berm, wall, or other device.

[*Comment:* The purpose of this section is to prevent fires, explosions, gaseous emission, leaching, or other discharge of hazardous waste or hazardous waste constituents which could result from the mixing of incompatible wastes or materials if containers break or leak.]

§ 264.178 Closure.

At closure, all hazardous waste and hazardous waste residues must be removed from the containment system. Remaining containers, liners, bases, and soil containing or contaminated with hazardous waste or hazardous waste residues must be decontaminated or removed.

[*Comment:* At closure, as throughout the operating period, unless the owner or operator can demonstrate in accordance with § 261.3(d) of this chapter that the solid waste removed from the containment system is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of Parts 262 through 266 of this chapter].

Subpart J—Tank Systems

SOURCE: 51 FR 25472, July 14, 1986, unless otherwise noted.

§ 264.190 Applicability.

The requirements of this Subpart apply to owners and operators of facilities that use tank systems for storing or treating hazardous waste except as otherwise provided in paragraphs (a) and (b) of this section or in § 264.1 of this part.

(a) Tank systems that are used to store or treat hazardous waste which contains no free liquids and are situated inside a building with an impermeable floor are exempted from the requirements in § 264.193. To demonstrate the absence or presence of free liquids in the stored/treated waste, EPA Method 9095 (Paint Filter Liquids Test) as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" (EPA Publication No. SW-846) must be used.

(b) Tank systems, including sumps, as defined in § 260.10, that serve as part of a secondary containment system to collect or contain releases of hazardous wastes are exempted from the requirements in § 264.193(a).

(Information collection requirement contained in paragraph (a) was approved by the Office of Management and Budget under control number 2050-0050)

[51 FR 25472, July 14, 1986; 51 FR 29430, Aug. 15, 1986, as amended at 53 FR 34086, Sept. 2, 1988]

§ 264.191 Assessment of existing tank system's integrity.

(a) For each existing tank system that does not have secondary containment meeting the requirements of § 264.193, the owner or operator must determine that the tank system is not leaking or is unfit for use. Except as provided in paragraph (c) of this section, the owner or operator must obtain and keep on file at the facility a written assessment reviewed and certified by an independent, qualified registered professional engineer, in accordance with § 270.11(d), that attests to the tank system's integrity by January 12, 1988.

(b) This assessment must determine that the tank system is adequately designed and has sufficient structural strength and compatibility with the waste(s) to be stored or treated, to ensure that it will not collapse, rupture, or fail. At a minimum, this assessment must consider the following:

(1) Design standard(s), if available, according to which the tank and ancillary equipment were constructed;

(2) Hazardous characteristics of the waste(s) that have been and will be handled;

(3) Existing corrosion protection measures;

(4) Documented age of the tank system, if available (otherwise, an estimate of the age); and

(5) Results of a leak test, internal inspection, or other tank integrity examination such that:

(i) For non-enterable underground tanks, the assessment must include a leak test that is capable of taking into account the effects of temperature variations, tank end deflection, vapor pockets, and high water table effects, and

(ii) For other than non-enterable underground tanks and for ancillary equipment, this assessment must include either a leak test, as described above, or other integrity examination, that is certified by an independent, qualified, registered professional engineer in accordance with § 270.11(d), that addresses cracks, leaks, corrosion, and erosion.

[NOTE: The practices described in the American Petroleum Institute (API) Publication, Guide for Inspection of Refinery Equipment, Chapter XIII, "Atmospheric and Low-Pressure Storage Tanks," 4th edition, 1981, may be used, where applicable, as guidelines in conducting other than a leak test.]

(c) Tank systems that store or treat materials that become hazardous wastes subsequent to July 14, 1986, must conduct this assessment within 12 months after the date that the waste becomes a hazardous waste.

(d) If, as a result of the assessment conducted in accordance with paragraph (a), a tank system is found to be leaking or unfit for use, the owner or operator must comply with the requirements of § 264.196.

(Information collection requirements contained in paragraphs (a) through (d) were approved by the Office of Management and Budget under control number 2050-0050)

[51 FR 25472, July 14, 1986; 51 FR 29430, Aug. 15, 1986]

§ 264.192 Design and installation of new tank systems or components.

(a) Owners or operators of new tank systems or components must obtain and submit to the Regional Administrator, at time of submittal of Part B information, a written assessment, reviewed and certified by an independent, qualified registered professional engineer, in accordance with § 270.11(d), attesting that the tank system has sufficient structural integrity and is acceptable for the storing and treating of hazardous waste. The assessment must show that the foundation, structural support, seams, connections, and pressure controls (if applicable) are adequately designed and that the tank system has sufficient structural strength, compatibility with the waste(s) to be stored or treated, and corrosion protection to ensure that it will not collapse, rupture, or fail. This assessment, which will be used by the Regional Administrator to review and approve or disapprove the acceptability of the tank system design, must include, at a minimum, the following information:

(1) Design standard(s) according to which tank(s) and/or the ancillary equipment are constructed;

(2) Hazardous characteristics of the waste(s) to be handled;

(3) For new tank systems or components in which the external shell of a metal tank or any external metal component of the tank system will be in contact with the soil or with water, a determination by a corrosion expert of:

(i) Factors affecting the potential for corrosion, including but not limited to:

(A) Soil moisture content;

(B) Soil pH;

(C) Soil sulfides level;

(D) Soil resistivity;

(E) Structure to soil potential;

(F) Influence of nearby underground metal structures (e.g., piping);

(G) Existence of stray electric
rent;

(H) Existing corrosion-protec
measures (e.g., coating, cathodic
tection), and

(ii) The type and degree of exte
corrosion protection that are ne
to ensure the integrity of the
system during the use of the
system or component, consistin
one or more of the following:

(A) Corrosion-resistant material
construction such as special alloy
berglass reinforced plastic, etc.;

(B) Corrosion-resistant coating (
as epoxy, fiberglass, etc.) with cat
ic protection (e.g., impressed cur
or sacrificial anodes); and

(C) Electrical isolation devices
as insulating joints, flanges, etc.

[NOTE: The practices described in th
tional Association of Corrosion Engi
(NACE) standard, "Recommended Pr
(RP-02-85)—Control of External Corr
on Metallic Buried, Partially Buried, or
merged Liquid Storage Systems," an
American Petroleum Institute (API)
cation 1632, "Cathodic Protection of U
ground Petroleum Storage Tanks
Piping Systems," may be used, where
cable, as guidelines in providing corr
protection for tank systems.]

(4) For underground tank sy
components that are likely to b
versely affected by vehicular traf
determination of design or operat
measures that will protect the
system against potential damage;

(5) Design considerations to e
that:

(i) Tank foundations will mai
the load of a full tank;

(ii) Tank systems will be anchor
prevent flotation or dislodg
where the tank system is placed
saturated zone, or is located wit
seismic fault zone subject to the s
ards of § 264.18(a); and

(iii) Tank systems will withstan
effects of frost heave.

(b) The owner or operator of
tank system must ensure that p
handling procedures are adhered
order to prevent damage to the s
during installation. Prior to cov
enclosing, or placing a new
system or component in use, an
pendent, qualified installation i
tor or an independent, qualified,

tered professional engineer, either of whom is trained and experienced in the proper installation of tank systems or components, must inspect the system for the presence of any of the following items:

(1) Weld breaks;

(2) Punctures;

(3) Scrapes of protective coatings;

(4) Cracks;

(5) Corrosion;

(6) Other structural damage or inadequate construction/installation.

All discrepancies must be remedied before the tank system is covered, enclosed, or placed in use.

(c) New tank systems or components that are placed underground and that are backfilled must be provided with a backfill material that is a noncorrosive, porous, homogeneous substance and that is installed so that the backfill is placed completely around the tank and compacted to ensure that the tank and piping are fully and uniformly supported.

(d) All new tanks and ancillary equipment must be tested for tightness prior to being covered, enclosed, or placed in use. If a tank system is found not to be tight, all repairs necessary to remedy the leak(s) in the system must be performed prior to the tank system being covered, enclosed, or placed into use.

(e) Ancillary equipment must be supported and protected against physical damage and excessive stress due to settlement, vibration, expansion, or contraction.

[NOTE: The piping system installation procedures described in American Petroleum Institute (API) Publication 1615 (November 1979), "Installation of Underground Petroleum Storage Systems," or ANSI Standard B31.3, "Petroleum Refinery Piping," and ANSI Standard B31.4 "Liquid Petroleum Transportation Piping System," may be used, where applicable, as guidelines for proper installation of piping systems.]

(f) The owner or operator must provide the type and degree of corrosion protection recommended by an independent corrosion expert, based on the information provided under paragraph (a)(3) of this section, or other corrosion protection if the Regional Administrator believes other corrosion protection is necessary to ensure the integrity of the tank system during use of the tank system. The installation of a corrosion protection system that is field fabricated must be supervised by an independent corrosion expert to ensure proper installation.

(g) The owner or operator must obtain and keep on file at the facility written statements by those persons required to certify the design of the tank system and supervise the installation of the tank system in accordance with the requirements of paragraphs (b) through (f) of this section, that attest that the tank system was properly designed and installed and that repairs, pursuant to paragraphs (b) and (d) of this section, were performed. These written statements must also include the certification statement as required in § 270.11(d) of this chapter.

(Information collection requirements contained in paragraphs (a) and (g) were approved by the Office of Management and Budget under control number 2050-0050)

[51 FR 25472, July 14, 1986; 51 FR 29430, Aug. 15, 1986]

§ 264.193 Containment and detection of releases.

(a) In order to prevent the release of hazardous waste or hazardous constituents to the environment, secondary containment that meets the requirements of this section must be provided (except as provided in paragraphs (f) and (g) of this section):

(1) For all new tank systems or components, prior to their being put into service;

(2) For all existing tank systems used to store or treat EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027, within two years after January 12, 1987;

(3) For those existing tank systems of known and documented age, within two years after January 12, 1987 or when the tank system has reached 15 years of age, whichever comes later;

(4) For those existing tank systems for which the age cannot be documented, within eight years of January 12, 1987; but if the age of the facility is greater than seven years, secondary containment must be provided by the time the facility reaches 15 years of

age, or within two years of January 12, 1987, whichever comes later; and

(5) For tank systems that store or treat materials that become hazardous wastes subsequent to January 12, 1987, within the time intervals required in paragraphs (a)(1) through (a)(4) of this section, except that the date that a material becomes a hazardous waste must be used in place of January 12, 1987.

(b) Secondary containment systems must be:

(1) Designed, installed, and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil, ground water, or surface water at any time during the use of the tank system; and

(2) Capable of detecting and collecting releases and accumulated liquids until the collected material is removed.

(c) To meet the requirements of paragraph (b) of this section, secondary containment systems must be at a minimum:

(1) Constructed of or lined with materials that are compatible with the wastes(s) to be placed in the tank system and must have sufficient strength and thickness to prevent failure owing to pressure gradients (including static head and external hydrological forces), physical contact with the waste to which it is exposed, climatic conditions, and the stress of daily operation (including stresses from nearby vehicular traffic).

(2) Placed on a foundation or base capable of providing support to the secondary containment system, resistance to pressure gradients above and below the system, and capable of preventing failure due to settlement, compression, or uplift;

(3) Provided with a leak-detection system that is designed and operated so that it will detect the failure of either the primary or secondary containment structure or the presence of any release of hazardous waste or accumulated liquid in the secondary containment system within 24 hours, or at the earliest practicable time if the owner or operator can demonstrate to the Regional Administrator that existing detection technologies or site conditions will not allow detection of a
lease within 24 hours; and

(4) Sloped or otherwise designed
operated to drain and remove liq
resulting from leaks, spills, or pre
tation. Spilled or leaked waste and
cumulated precipitation must be
moved from the secondary cont
ment system within 24 hours, or i
timely a manner as is possible to
vent harm to human health and
environment, if the owner or oper
can demonstrate to the Regional
ministrator that removal of the
leased waste or accumulated preci
tion cannot be accomplished withi
hours.

[NOTE: If the collected material is a
ardous waste under Part 261 of this cha
it is subject to management as a haza
waste in accordance with all applicab
quirements of Parts 262 through 265 o
chapter. If the collected material is
charged through a point source to wat
the United States, it is subject to th
quirements of sections 301, 304, and 4
the Clean Water Act, as amended. I
charged to a Publicly Owned Treat
Works (POTW), it is subject to the re
ments of section 307 of the Clean
Act, as amended. If the collected mate
released to the environment, it may be
ject to the reporting requirements
CFR Part 302.]

(d) Secondary containment for t
must include one or more of the
lowing devices:

(1) A liner (external to the tank)

(2) A vault;

(3) A double-walled tank; or

(4) An equivalent device as appr
by the Regional Administrator

(e) In addition to the requirem
of paragraphs (b), (c), and (d) of
section, secondary containment
tems must satisfy the followin
quirements:

(1) External liner systems must

(i) Designed or operated to co
100 percent of the capacity of the
est tank within its boundary;

(ii) Designed or operated to pr
run-on or infiltration of precipit
into the secondary contai
system unless the collection sy
has sufficient excess capacity to
tain run-on or infiltration. Such
tional capacity must be sufficie

contain precipitation from a 25-year, 24-hour rainfall event.

(iii) Free of cracks or gaps; and

(iv) Designed and installed to surround the tank completely and to cover all surrounding earth likely to come into contact with the waste if the waste is released from the tank(s) (i.e., capable of preventing lateral as well as vertical migration of the waste).

(2) Vault systems must be:

(i) Designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;

(ii) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event:

(iii) Constructed with chemical-resistant water stops in place at all joints (if any):

(iv) Provided with an impermeable interior coating or lining that is compatible with the stored waste and that will prevent migration of waste into the concrete;

(v) Provided with a means to protect against the formation of and ignition of vapors within the vault, if the waste being stored or treated:

(A) Meets the definition of ignitable waste under § 262.21 of this chapter; or

(B) Meets the definition of reactive waste under § 262.21 of this chapter, and may form an ignitable or explosive vapor.

(vi) Provided with an exterior moisture barrier or be otherwise designed or operated to prevent migration of moisture into the vault if the vault is subject to hydraulic pressure.

(3) Double-walled tanks must be:

(i) Designed as an integral structure (i.e., an inner tank completely enveloped within an outer shell) so that any release from the inner tank is contained by the outer shell.

(ii) Protected, if constructed of metal, from both corrosion of the primary tank interior and of the external surface of the outer shell: and

(iii) Provided with a built-in continuous leak detection system capable of detecting a release within 24 hours, or at the earliest practicable time, if the owner or operator can demonstrate to the Regional Administrator, and the Regional Administrator concludes, that the existing detection technology or site conditions would not allow detection of a release within 24 hours.

[NOTE: The provisions outlined in the Steel Tank Institute's (STI) "Standard for Dual Wall Underground Steel Storage Tanks" may be used as guidelines for aspects of the design of underground steel double-walled tanks.]

(f) Ancillary equipment must be provided with secondary containment (e.g., trench, jacketing, double-walled piping) that meets the requirements of paragraphs (b) and (c) of this section except for:

(1) Aboveground piping (exclusive of flanges, joints, valves, and other connections) that are visually inspected for leaks on a daily basis;

(2) Welded flanges, welded joints, and welded connections, that are visually inspected for leaks on a daily basis;

(3) Sealless or magnetic coupling pumps and sealless valves, that are visually inspected for leaks on a daily basis; and

(4) Pressurized aboveground piping systems with automatic shut-off devices (e.g., excess flow check valves, flow metering shutdown devices, loss of pressure actuated shut-off devices) that are visually inspected for leaks on a daily basis.

(g) The owner or operator may obtain a variance from the requirements of this section if the Regional Administrator finds, as a result of a demonstration by the owner or operator that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous waste or hazardous constituents into the ground water; or surface water at least as effectively as secondary containment during the active life of the tank system *or* that in the event of a release that does migrate to ground water or surface water, no substantial present or potential hazard will be posed to human health or the environment. New underground tank systems may not, per a demonstration in accordance with paragraph (g)(2) of this section, be exempted from the secondary containment requirements of this section.

(1) In deciding whether to grant a variance based on a demonstration of equivalent protection of ground water and surface water, the Regional Administrator will consider:

(i) The nature and quantity of the wastes;

(ii) The proposed alternate design and operation;

(iii) The hydrogeologic setting of the facility, including the thickness of soils present between the tank system and ground water, and

(iv) All other factors that would influence the quality and mobility of the hazardous constituents and the potential for them to migrate to ground water or surface water

(2) In deciding whether to grant a variance based on a demonstration of no substantial present or potential hazard, the Regional Administrator will consider:

(i) The potential adverse effects on ground water, surface water, and land quality taking into account:

(A) The physical and chemical characteristics of the waste in the tank system, including its potential for migration.

(B) The hydrogeological characteristics of the facility and surrounding land,

(C) The potential for health risks caused by human exposure to waste constituents,

(D) The potential for damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents, and

(E) The persistence and permanence of the potential adverse effects;

(ii) The potential adverse effects of a release on ground-water quality, taking into account:

(A) The quantity and quality of ground water and the direction of ground-water flow,

(B) The proximity and withdrawal rates of ground-water users,

(C) The current and future uses of ground water in the area, and

(D) The existing quality of ground water, including other sources of contamination and their cumulative impact on the ground-water quality;

(iii) The potential adverse effects of a release on surface water quality, taking into account:

(A) The quantity and quality of ground water and the direction of ground-water flow,

(B) The patterns of rainfall in the region,

(C) The proximity of the tank system to surface waters,

(D) The current and future uses of surface waters in the area and any water quality standards established for those surface waters, and

(E) The existing quality of surface water, including other sources of contamination and the cumulative impact on surface-water quality; and

(iv) The potential adverse effects of a release on the land surrounding the tank system, taking into account:

(A) The patterns of rainfall in the region, and

(B) The current and future uses of the surrounding land.

(3) The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of paragraph (g)(1) of this section, at which a release of hazardous waste has occurred from the primary tank system but has not migrated beyond the zone of engineering control (as established in the variance), must:

(i) Comply with the requirements of § 264.196, except paragraph (d), and

(ii) Decontaminate or remove contaminated soil to the extent necessary to:

(A) Enable the tank system for which the variance was granted to resume operation with the capability for the detection of releases at least equivalent to the capability it had prior to the release; and

(B) Prevent the migration of hazardous waste or hazardous constituents to ground water or surface water; and

(iii) If contaminated soil cannot be removed or decontaminated in accordance with paragraph (g)(3)(ii) of this section, comply with the requirement of § 264.197(b).

(4) The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of paragraph (g)(1) of this section, at which a release of hazardous waste has occurred from the primary tank system and has migrated beyond the zone of engineering control (as established in the variance), must:

(i) Comply with the requirements of § 264.196 (a), (b), (c), and (d); and

(ii) Prevent the migration of hazardous waste or hazardous constituents to ground water or surface water, if possible, and decontaminate or remove contaminated soil. If contaminated soil cannot be decontaminated or removed or if ground water has been contaminated, the owner or operator must comply with the requirements of § 264.197(b); and

(iii) If repairing, replacing, or reinstalling the tank system, provide secondary containment in accordance with the requirements of paragraphs (a) through (f) of this section or reapply for a variance from secondary containment and meet the requirements for new tank systems in § 264.192 if the tank system is replaced. The owner or operator must comply with these requirements even if contaminated soil can be decontaminated or removed and ground water or surface water has not been contaminated.

(h) The following procedures must be followed in order to request a variance from secondary containment:

(1) The Regional Administrator must be notified in writing by the owner or operator that he intends to conduct and submit a demonstration for a variance from secondary containment as allowed in paragraph (g) according to the following schedule:

(i) For existing tank systems, at least 24 months prior to the date that secondary containment must be provided in accordance with paragraph (a) of this section.

(ii) For new tank systems, at least 30 days prior to entering into a contract for installation.

(2) As part of the notification, the owner or operator must also submit to the Regional Administrator a description of the steps necessary to conduct the demonstration and a timetable for completing each of the steps. The demonstration must address each of the factors listed in paragraph (g)(1) or paragraph (g)(2) of this section;

(3) The demonstration for a variance must be completed within 180 days after notifying the Regional Administrator of an intent to conduct the demonstration; and

(4) If a variance is granted under this paragraph, the Regional Administrator will require the permittee to construct and operate the tank system in the manner that was demonstrated to meet the requirements for the variance.

(i) All tank systems, until such time as secondary containment that meets the requirements of this section is provided, must comply with the following:

(1) For non-enterable underground tanks, a leak test that meets the requirements of § 264.191(b)(5) or other tank integrity method, as approved or required by the Regional Administrator, must be conducted at least annually.

(2) For other than non-enterable underground tanks, the owner or operator must either conduct a leak test as in paragraph (i)(1) of this section or develop a schedule and procedure for an assessment of the overall condition of the tank system by an independent, qualified registered professional engineer. The schedule and procedure must be adequate to detect obvious cracks, leaks, and corrosion or erosion that may lead to cracks and leaks. The owner or operator must remove the stored waste from the tank, if necessary, to allow the condition of all internal tank surfaces to be assessed. The frequency of these assessments must be based on the material of construction of the tank and its ancillary equipment, the age of the system, the type of corrosion or erosion protection used, the rate of corrosion or erosion observed during the previous inspection, and the characteristics of the waste being stored or treated.

(3) For ancillary equipment, a leak test or other integrity assessment as approved by the Regional Administrator must be conducted at least annually.

[NOTE: The practices described in the American Petroleum Institute (API) Publication Guide for Inspection of Refinery Equipment, Chapter XIII, "Atmospheric and Low-Pressure Storage Tanks," 4th edition, 1981, may be used, where applicable, as guidelines for assessing the overall condition of the tank system.]

(4) The owner or operator must maintain on file at the facility a record of the results of the assessments conducted in accordance with paragraphs (i)(1) through (i)(3) of this section.

(5) If a tank system or component is found to be leaking or unfit for use as a result of the leak test or assessment in paragraphs (i)(1) through (i)(3) of this section, the owner or operator must comply with the requirements of § 264.196.

(Information collection requirements contained in paragraphs (c), (d), (e), (g), (h), and (i) were approved by the Office of Management and Budget under control number 2050-0050)

[51 FR 25472, July 14, 1986; 51 FR 29430, Aug. 15, 1986, as amended at 53 FR 34086, Sept. 2, 1988]

§ 264.194 General operating requirements.

(a) Hazardous wastes or treatment reagents must not be placed in a tank system if they could cause the tank, its ancillary equipment, or the containment system to rupture, leak, corrode, or otherwise fail.

(b) The owner or operator must use appropriate controls and practices to prevent spills and overflows from tank or containment systems. These include at a minimum:

(1) Spill prevention controls (e.g., check valves, dry disconnect couplings);

(2) Overfill prevention controls (e.g., level sensing devices, high level alarms, automatic feed cutoff, or bypass to a standby tank); and

(3) Maintenance of sufficient freeboard in uncovered tanks to prevent overtopping by wave or wind action or by precipitation.

(c) The owner or operator must comply with the requirements of § 264.196 if a leak or spill occurs in the tank system.

(Information collection requirements contained in paragraph (c) were approved by the Office of Management and Budg
under control number 2050-0050)

§ 264.195 Inspections.

(a) The owner or operator must d
velop and follow a schedule and proc
dure for inspecting overfill controls.

(b) The owner or operator must i
spect at least once each operating da

(1) Aboveground portions of t
tank system, if any, to detect corrosi
or releases of waste;

(2) Data gathered from monitori
and leak detection equipment (e.
pressure or temperature gauges, mo
toring wells) to ensure that the ta
system is being operated according
its design; and

(3) The construction materials a
the area immediately surrounding t
externally accessible portion of t
tank system, including the seconda
containment system (e.g., dikes)
detect erosion or signs of releases
hazardous waste (e.g., wet spots, de
vegetation).

[NOTE: Section 264.15(c) requires
owner or operator to remedy any deteri
tion or malfunction he finds. Sect
264.196 requires the owner or operator
notify the Regional Administrator withi
hours of confirming a leak. Also, 40 C
Part 302 may require the owner or oper
to notify the National Response Center
release.]

(c) The owner or operator must
spect cathodic protection systems,
present, according to, at a minimu
the following schedule to ensure t
they are functioning properly:

(1) The proper operation of the
thodic protection system must be c
firmed within six months after ini
installation and annually thereaf
and

(2) All sources of impressed curr
must be inspected and/or tested,
appropriate, at least bimonthly (
every other month).

[NOTE: The practices described in the
tional Association of Corrosion Engin
(NACE) standard, "Recommended Pra
(RP-02-85)—Control of External Corro
on Metallic Buried, Partially Buried, or
merged Liquid Storage Systems," and
American Petroleum Institute (API) P
cation 1632, "Cathodic Protection of Un
ground Petroleum Storage Tanks
Piping Systems," may be used, where a

cable, as guidelines in maintaining and inspecting cathodic protection systems.]

(d) The owner or operator must document in the operating record of the facility an inspection of those items in paragraphs (a) through (c) of this section.

(Information collection requirements contained in paragraph (a) and (d) were approved by the Office of Management and Budget under control number 2050-0050)

§ 264.196 Response to leaks or spills and disposition of leaking or unfit-for-use tank systems.

A tank system or secondary containment system from which there has been a leak or spill, or which is unfit for use, must be removed from service immediately, and the owner or operator must satisfy the following requirements:

(a) *Cessation of use; prevent flow or addition of wastes.* The owner or operator must immediately stop the flow of hazardous waste into the tank system or secondary containment system and inspect the system to determine the cause of the release.

(b) *Removal of waste from tank system or secondary containment system.* (1) If the release was from the tank system, the owner/operator must, within 24 hours after detection of the leak or, if the owner/operator demonstrates that it is not possible, at the earliest practicable time, remove as much of the waste as is necessary to prevent further release of hazardous waste to the environment and to allow inspection and repair of the tank system to be performed.

(2) If the material released was to a secondary containment system, all released materials must be removed within 24 hours or in as timely a manner as is possible to prevent harm to human health and the environment.

(c) *Containment of visible releases to the environment.* The owner/operator must immediately conduct a visual inspection of the release and, based upon that inspection:

(1) Prevent further migration of the leak or spill to soils or surface water; and

(2) Remove, and properly dispose of, any visible contamination of the soil or surface water.

(d) *Notifications, reports.* (1) Any release to the environment, except as provided in paragraph (d)(2) of this section, must be reported to the Regional Administrator within 24 hours of its detection. If the release has been reported pursuant to 40 CFR Part 302, that report will satisfy this requirement.

(2) A leak or spill of hazardous waste is exempted from the requirements of this paragraph if it is:

(i) Less than or equal to a quantity of one (1) pound, and

(ii) Immediately contained and cleaned up.

(3) Within 30 days of detection of a release to the environment, a report containing the following information must be submitted to the Regional Administrator:

(i) Likely route of migration of the release;

(ii) Characteristics of the surrounding soil (soil composition, geology, hydrogeology, climate);

(iii) Results of any monitoring or sampling conducted in connection with the release (if available). If sampling or monitoring data relating to the release are not available within 30 days, these data must be submitted to the Regional Administrator as soon as they become available.

(iv) Proximity to downgradient drinking water, surface water, and populated areas; and

(v) Description of response actions taken or planned.

(e) *Provision of secondary containment, repair, or closure.* (1) Unless the owner/operator satisfies the requirements of paragraphs (e)(2) through (4) of this section, the tank system must be closed in accordance with § 264.197.

(2) If the cause of the release was a spill that has not damaged the integrity of the system, the owner/operator may return the system to service as soon as the released waste is removed and repairs, if necessary, are made.

(3) If the cause of the release was a leak from the primary tank system into the secondary containment system, the system must be repaired

prior to returning the tank system to service.

(4) If the source of the release was a leak to the environment from a component of a tank system without secondary containment, the owner/operator must provide the component of the system from which the leak occurred with secondary containment that satisfies the requirements of § 264.193 before it can be returned to service, unless the source of the leak is an aboveground portion of a tank system that can be inspected visually. If the source is an aboveground component that can be inspected visually, the component must be repaired and may be returned to service without secondary containment as long as the requirements of paragraph (f) of this section are satisfied. If a component is replaced to comply with the requirements of this subparagraph, that component must satisfy the requirements for new tank systems or components in §§ 264.192 and 264.193. Additionally, if a leak has occurred in any portion of a tank system component that is not readily accessible for visual inspection (e.g., the bottom of an inground or onground tank), the entire component must be provided with secondary containment in accordance with § 264.193 prior to being returned to use.

(f) *Certification of major repairs.* If the owner/operator has repaired a tank system in accordance with paragraph (e) of this section, and the repair has been extensive (e.g., installation of an internal liner; repair of a ruptured primary containment or secondary containment vessel), the tank system must not be returned to service unless the owner/operator has obtained a certification by an independent, qualified, registered, professional engineer in accordance with § 270.11(d) that the repaired system is capable of handling hazardous wastes without release for the intended life of the system. This certification must be submitted to the Regional Administrator within seven days after returning the tank system to use.

[NOTE: The Regional Administrator may, on the basis of any information received that there is or has been a release of hazardous waste or hazardous constituents into the environment, issue an order under
RCRA section 3004(v), 3008(h), or 70
requiring corrective action or such othe
sponse as deemed necessary to pr
human health or the environment.]

[NOTE: See § 264.15(c) for the req
ments necessary to remedy a failure.
40 CFR Part 302 may require the own
operator to notify the National Resp
Center of certain releases.]

(Information collection requirements
tained in paragraphs (d), (e), and (f)
approved by the Office of Management
Budget under control number 2050-0050

[51 FR 25472, July 14, 1986; 51 FR 2
Aug. 15, 1986, as amended at 53 FR 3
Sept. 2, 1988]

§ 264.197 Closure and post-closure ca

(a) At closure of a tank system,
owner or operator must remove o
contaminate all waste residues,
taminated containment system co
nents (liners, etc.), contaminated
and structures and equipment
taminated with waste, and ma
them as hazardous waste, u
§ 261.3(d) of this Chapter applies.
closure plan, closure activities, cos
timates for closure, and financia
sponsibility for tank systems
meet all of the requirements spec
in Subparts G and H of this Part.

(b) If the owner or operator de
strates that not all contaminated
can be practicably removed or de
taminated as required in paragrap
of this section, then the owner o
erator must close the tank system
perform post-closure care in ac
ance with the closure and post-clo
care requirements that apply to l
fills (§ 264.310). In addition, for
purposes of closure, post-closure,
financial responsibility, such a
system is then considered to be a l
fill, and the owner or operator
meet all of the requirements for l
fills specified in Subparts G and
this part.

(c) If an owner or operator h
tank system that does not have
ondary containment that meets th
quirements of § 264.193 (b) throug
and has not been granted a vari
from the secondary containment
quirements in accordance
§ 264.193(g), then:

(1) The closure plan for the
system must include both a plan

complying with paragraph (a) of this section and a contingent plan for complying with paragraph (b) of this section.

(2) A contingent post-closure plan for complying with paragraph (b) of this section must be prepared and submitted as part of the permit application.

(3) The cost estimates calculated for closure and post-closure care must reflect the costs of complying with the contingent closure plan and the contingent post-closure plan, if those costs are greater than the costs of complying with the closure plan prepared for the expected closure under paragraph (a) of this section.

(4) Financial assurance must be based on the cost estimates in paragraph (c)(3) of this section.

(5) For the purposes of the contingent closure and post-closure plans, such a tank system is considered to be a landfill, and the contingent plans must meet all of the closure, post-closure, and financial responsibility requirements for landfills under Subparts G and H of this Part.

(Information collection requirements contained in paragraphs (a)-(c) were approved by the Office of Management and Budget under control number 2050-0050)

[51 FR 25472, July 14, 1986; 51 FR 29430, Aug. 15, 1986]

§ 264.198 Special requirements for ignitable or reactive wastes.

(a) Ignitable or reactive waste must not be placed in tank systems, unless:

(1) The waste is treated, rendered, or mixed before or immediately after placement in the tank system so that:

(i) The resulting waste, mixture, or dissolved material no longer meets the definition of ignitable or reactive waste under §§ 261.21 or 261.23 of this Chapter, and

(ii) Section 264.17(b) is complied with; or

(2) The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react; or

(3) The tank system is used solely for emergencies.

(b) The owner or operator of a facility where ignitable or reactive waste is stored or treated in a tank must comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjoining property line that can be built upon as required in Tables 2-1 through 2-6 of the National Fire Protection Association's "Flammable and Combustible Liquids Code," (1977 or 1981), (incorporated by reference, see § 260.11).

§ 264.199 Special requirements for incompatible wastes.

(a) Incompatible wastes, or incompatible wastes and materials, must not be placed in the same tank system, unless § 264.17(b) is complied with.

(b) Hazardous waste must not be placed in a tank system that has not been decontaminated and that previously held an incompatible waste or material, unless § 264.17(b) is complied with.

Subpart K—Surface Impoundments

SOURCE: 47 FR 32357, July 26, 1982, unless otherwise noted.

§ 264.220 Applicability.

The regulations in this subpart apply to owners and operators of facilities that use surface impoundments to treat, store, or dispose of hazardous waste except as § 264.1 provides otherwise.

§ 264.221 Design and operating requirements.

(a) Any surface impoundment that is not covered by paragraph (c) of this section or § 265.221 of this chapter must have a liner for all portions of the impoundment (except for existing portions of such impoundments). The liner must be designed, constructed, and installed to prevent any migration of wastes out of the impoundment to the adjacent subsurface soil or ground water or surface water at any time during the active life (including the closure period) of the impoundment. The liner may be constructed of materials that may allow wastes to migrate into the liner (but not into the adjacent subsurface soil or ground water or surface water) during the active life of the facility, provided that the impoundment is closed in accordance with § 264.228(a)(1). For impoundments that will be closed in accordance with § 264.228(a)(2), the liner must be constructed of materials that can prevent wastes from migrating into the liner during the active life of the facility. The liner must be:

(1) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

(2) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and

(3) Installed to cover all surrounding earth likely to be in contact with the waste or leachate.

(b) The owner or operator will be exempted from the requirements of paragraph (a) of this section if the Regional Administrator finds, based on a demonstration by the owner or operator, that alternate design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents (see § 264.93) into the ground water or surface water at any future time. In deciding whether to grant an exemption, the Regional Administrator will consider:

(1) The nature and quantity of the wastes;

(2) The proposed alternate design and operation;

(3) The hydrogeologic setting of the facility, including the attenuative capacity and thickness of the liners and soils present between the impoundment and ground water or surface water; and

(4) All other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to ground water or surface water.

(c) The owner or operator of each new surface impoundment, each new surface impoundment unit at an existing facility, each replacement of an existing surface impoundment unit, and each lateral expansion of an existing surface impoundment unit, must install two or more liners and leachate collection system between such liners. The liners and leachate collection system must protect human health and the environment. The requirements of this paragraph shall apply with respect to all waste received after insurance of the permit for units where the part B of the permit application is received by the Regional Administrator after November 8, 1984. The requirement for the installation of two or more liners in this paragraph may be satisfied by the installation of a top liner designed, operated, and constructed of materials to prevent the migration of any constituent into such liner during the period such facility remains in operation (including any post-closure monitoring period), and a lower liner designed, operated, and constructed to prevent the migration of any constituent through such liner during such period. For the purpose of the preceding sentence, a lower liner shall be deemed to satisfy such requirement if it is constructed of at least a 3-foot thick layer of recompacted clay or other natural material with a permeability of no more than 1×10^{-7} centimeter per second.

(d) Paragraph (c) of this section will not apply if the owner or operator demonstrates to the Regional Administrator, and the Regional Administrator finds for such surface impoundment, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituent into the ground water or surface water at least as effectively as such liners and leachate collection systems.

(e) The double liner requirement set forth in paragraph (c) of this section may be waived by the Regional Administrator for any monofill, if:

(1) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes hazardous for reasons other than the EP toxicity char-

cteristics in § 261.24 of this chapter; nd

(2)(i)(A) The monofill has at least ne liner for which there is no evience that such liner is leaking. For he purposes of this paragraph, the erm "liner" means a liner designed, onstructed, installed, and operated to revent hazardous waste from passing nto the liner at any time during the ctive life of the facility, or a liner deigned, constructed, installed, and oprated to prevent hazardous waste rom migrating beyond the liner to adacent subsurface soil, ground water, r surface water at any time during he active life of the facility. In the ase of any surface impoundment hich has been exempted from the reuirements of paragraph (c) of this ection on the basis of a liner deigned, constructed, installed, and oprated to prevent hazardous waste rom passing beyond the liner, at the losure of such impoundment, the wner or operator must remove or deontaminate all waste residues, all conaminated liner material, and contami ated soil to the extent practicable. If ll contaminated soil is not removed or econtaminated, the owner or operaor of such impoundment will comply ith appropriate post-closure requireents, including but not limited to round-water monitoring and correcve action;

(B) The monofill is located more han one-quarter mile from an underround source of drinking water (as hat term is defined in § 144.3 of this hapter); and

(C) The monofill is in compliance ith generally applicable groundater monitoring requrements for falities with permits under RCRA secon 3005(c); or

(ii) The owner or operator demonrates that the monofill is located, degned and operated so as to assure hat there will be no migration of any azardous constituent into ground ater or surface water at any future me.

(f) A surface impoundment must be esigned, constructed, maintained, and perated to prevent overtopping relting from normal or abnormal operions; overfilling; wind and wave ction; rainfall; run-on; malfunctions of level controllers, alarms, and other equipment; and human error.

(g) A surface impoundment must have dikes that are designed, constructed, and maintained with sufficient structural integrity to prevent massive failure of the dikes. In ensuring structural integrity, it must not be presumed that the liner system will function without leakage during the active life of the unit.

(h) The Regional Administrator will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied.

(Approved by the Office of Management and Budget under control number 2050-0007)

[47 FR 32357, July 26, 1982, as amended at 50 FR 4514, Jan. 31, 1985; 50 FR 28747, July 15, 1985; 55 FR 19263, May 9, 1990]

§§ 264.222—264.225 [Reserved]

§ 264.226 Monitoring and inspection.

(a) During construction and installation, liners (except in the case of existing portions of surface impoundments exempt from § 264.221(a)) and cover systems (e.g., membranes, sheets, or coatings) must be inspected for uniformity, damage, and imperfections (e.g., holes, cracks, thin spots, or foreign materials). Immediately after construction or installation:

(1) Synthetic liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters; and

(2) Soil-based and admixed liners and covers must be inspected for imperfections including lenses, cracks, channels, root holes, or other structural non-uniformities that may cause an increase in the permeability of the liner or cover.

(b) While a surface impoundment is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

(1) Deterioration, malfunctions, or improper operation of overtopping control systems;

(2) Sudden drops in the level of the impoundment's contents; and

(3) Severe erosion or other signs of deterioration in dikes or other containment devices.

(c) Prior to the issuance of a permit, and after any extended period of time (at least six months) during which the impoundment was not in service, the owner or operator must obtain a certification from a qualified engineer that the impoundment's dike, including that portion of any dike which provides freeboard, has structural integrity. The certification must establish, in particular, that the dike:

(1) Will withstand the stress of the pressure exerted by the types and amounts of wastes to be placed in the impoundment; and

(2) Will not fail due to scouring or piping, without dependence on any liner system included in the surface impoundment construction.

(Approved by the Office of Management and Budget under control number 2050-0007)

[47 FR 32357, July 26, 1982, as amended at 50 FR 4514, Jan. 31, 1985; 50 FR 28748, July 15, 1985]

§ 264.227 Emergency repairs; contingency plans.

(a) A surface impoundment must be removed from service in accordance with paragraph (b) of this section when:

(1) The level of liquids in the impoundment suddenly drops and the drop is not known to be caused by changes in the flows into or out of the impoundment; or

(2) The dike leaks.

(b) When a surface impoundment must be removed from service as required by paragraph (a) of this section, the owner or operator must:

(1) Immediately shut off the flow or stop the addition of wastes into the impoundment;

(2) Immediately contain any surface leakage which has occurred or is occurring;

(3) Immediately stop the leak;

(4) Take any other necessary steps to stop or prevent catastrophic failure;

(5) If a leak cannot be stopped by any other means, empty the impoundment; and

(6) Notify the Regional Administrator of the problem in writing within seven days after detecting the problem.

(c) As part of the contingency plan required in Subpart D of this part, the owner or operator must specify a procedure for complying with the requirements of paragraph (b) of this section.

(d) No surface impoundment that has been removed from service in accordance with the requirements of this section may be restored to service unless the portion of the impoundment which was failing is repaired and the following steps are taken:

(1) If the impoundment was removed from service as the result of actual or imminent dike failure, the dike's structural integrity must be recertified in accordance with § 264.226(c).

(2) If the impoundment was removed from service as the result of a sudden drop in the liquid level, then:

(i) For any existing portion of the impoundment, a liner must be installed in compliance with § 264.221(a); and

(ii) For any other portion of the impoundment, the repaired liner system must be certified by a qualified engineer as meeting the design specifications approved in the permit.

(e) A surface impoundment that has been removed from service in accordance with the requirements of this section and that is not being repaired must be closed in accordance with the provisions of § 264.228.

[47 FR 32357, July 26, 1982, as amended at 50 FR 28748, July 15, 1985]

§ 264.228 Closure and post-closure care.

(a) At closure, the owner or operator must:

(1) Remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless § 261.3(d) of this chapter applies; or

(2)(i) Eliminate free liquids by removing liquid wastes or solidifying the remaining wastes and waste residues;

(ii) Stabilize remaining wastes to a bearing capacity sufficient to support final cover; and

(iii) Cover the surface impoundment with a final cover designed and constructed to:

(A) Provide long-term minimization of the migration of liquids through the closed impoundment;

(B) Function with minimum maintenance;

(C) Promote drainage and minimize erosion or abrasion of the final cover;

(D) Accommodate settling and subsidence so that the cover's integrity is maintained; and

(E) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(b) If some waste residues or contaminated materials are left in place at final closure, the owner or operator must comply with all post-closure requirements contained in §§ 264.117 through 264.120, including maintenance and monitoring throughout the post-closure care period (specified in the permit under § 264.117). The owner or operator must:

(1) Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events;

(2) Maintain and monitor the ground-water monitoring system and comply with all other applicable requirements of Subpart F of this part; and

(3) Prevent run-on and run-off from eroding or otherwise damaging the final cover.

(c)(1) If an owner or operator plans to close a surface impoundment in accordance with paragraph (a)(1) of this section, and the impoundment does not comply with the liner requirements of § 264.221(a) and is not exempt from them in accordance with § 264.221(b), then:

(i) The closure plan for the impoundment under § 264.112 must include both a plan for complying with paragraph (a)(1) of this section and a contingent plan for complying with paragraph (a)(2) of this section in case not all contaminated subsoils can be practicably removed at closure; and

(ii) The owner or operator must prepare a contingent post-closure plan under § 264.118 for complying with paragraph (b) of this section in case not all contaminated subsoils can be practicably removed at closure.

(2) The cost estimates calculated under §§ 264.142 and 264.144 for closure and post-closure care of an impoundment subject to this paragraph must include the cost of complying with the contingent closure plan and the contingent post-closure plan, but are not required to include the cost of expected closure under paragraph (a)(1) of this section.

[47 FR 32357, July 26, 1982, as amended at 50 FR 28748, July 15, 1985]

§ 264.229 Special requirements for ignitable or reactive waste.

Ignitable or reactive waste must not be placed in a surface impoundment, unless the waste and impoundment satisfy all applicable requirements of 40 CFR part 268, and:

(a) The waste is treated, rendered, or mixed before or immediately after placement in the impoundment so that:

(1) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under § 261.21 or § 261.23 of this chapter; and

(2) Section 264.17(b) is complied with; or

(b) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react; or

(c) The surface impoundment is used solely for emergencies.

[47 FR 32357, July 26, 1982, as amended at 55 FR 22685, June 1, 1990]

§ 264.230 Special requirements for incompatible wastes.

Incompatible wastes, or incompatible wastes and materials, (see Appendix V of this part for examples) must not be placed in the same surface impoundment, unless § 264.17(b) is complied with.

§ 264.231 Special requirements for hazardous wastes FO20, FO21, FO22, FO23, FO26, and FO27.

(a) Hazardous Wastes FO20, FO21, FO22, FO23, FO26, and FO27 must not be placed in a surface impoundment unless the owner or operator operates the surface impoundment in accordance with a management plan for these wastes that is approved by the Regional Administrator pursuant to the standards set out in this paragraph, and in accord with all other applicable requirements of this part. The factors to be considered are:

(1) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(2) The attenuative properties of underlying and surrounding soils or other materials;

(3) The mobilizing properties of other materials co-disposed with these wastes; and

(4) The effectiveness of additional treatment, design, or monitoring techniques.

(b) The Regional Administrator may determine that additional design, operating, and monitoring requirements are necessary for surface impoundments managing hazardous wastes FO20, FO21, FO22, FO23, FO26, and FO27 in order to reduce the possibility of migration of these wastes to ground water, surface water, or air so as to protect human health and the environment.

[50 FR 2004, Jan. 14, 1985]

Subpart L—Waste Piles

SOURCE: 47 FR 32359, July 26, 1982, unless otherwise noted.

§ 264.250 Applicability.

(a) The regulations in this subpart apply to owners and operators of facilities that store or treat hazardous waste in piles, except as § 264.1 provides otherwise.

(b) The regulations in this subpart do not apply to owners or operators of waste piles that are closed with wastes left in place. Such waste piles are subject to regulation under Subpart N of this part (Landfills).

(c) The owner or operator of any waste pile that is inside or under a structure that provides protection from precipitation so that neither runoff nor leachate is generated is not subject to regulation under § 264.251 or under Subpart F of this part, pr vided that:

(1) Liquids or materials containi free liquids are not placed in the pil

(2) The pile is protected from su face water run-on by the structure in some other manner;

(3) The pile is designed and operat to control dispersal of the waste wind, where necessary, by means oth than wetting; and

(4) The pile will not generate leac ate through decomposition or oth reactions.

§ 264.251 Design and operating requi ments.

(a) A waste pile (except for an exi ing portion of a waste pile) must hav

(1) A liner that is designed, co structed, and installed to prevent a migration of wastes out of the p into the adjacent subsurface soil ground water or surface water at a time during the active life (includi the closure period) of the waste pi The liner may be constructed of mat rials that may allow waste to migra into the liner itself (but not into t adjacent subsurface soil or grou water or surface water) during t active life of the facility. The lin must be:

(i) Constructed of materials th have appropriate chemical properti and sufficient strength and thickne to prevent failure due to pressure g dients (including static head and e ternal hydrogeologic forces), physic contact with the waste or leachate which they are exposed, climatic co ditions, the stress of installation, a the stress of daily operation;

(ii) Placed upon a foundation or ba capable of providing support to t liner and resistance to pressure gra ents above and below the liner to p vent failure of the liner due to sett ment, compression, or uplift; and

(iii) Installed to cover all surrou ing earth likely to be in contact wi the waste or leachate; and

(2) A leachate collection and rem al system immediately above the lin that is designed, constructed, ma tained, and operated to collect a remove leachate from the pile. T Regional Administrator will spec

design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed 30 cm (one foot). The leachate collection and removal system must be:

(i) Constructed of materials that are:

(A) Chemically resistent to the waste managed in the pile and the leachate expected to be generated; and

(B) Of sufficient strength and thickness to prevent collapse under the pressures exerted by overlaying wastes, waste cover materials, and by any equipment used at the pile; and

(ii) Designed and operated to function without clogging through the scheduled closure of the waste pile.

(b) The owner or operator will be exempted from the requirements of paragraph (a) of this section, if the Regional Administrator finds, based on a demonstration by the owner or operator, that alternate design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents (see § 264.93) into the ground water or surface water at any future time. In deciding whether to grant an exemption, the Regional Administrator will consider:

(1) The nature and quantity of the wastes;

(2) The proposed alternate design and operation;

(3) The hydrogeologic setting of the facility, including attenuative capacity and thickness of the liners and soils present between the pile and ground water or surface water; and

(4) All other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to ground water or surface water.

(c) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the pile during peak discharge from at least a 25-year storm.

(d) The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(e) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(f) If the pile contains any particulate matter which may be subject to wind dispersal, the owner or operator must cover or otherwise manage the pile to control wind dispersal.

(g) The Regional Administrator will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied.

(Approved by the Office of Management and Budget under control number 2050-0007)

[47 FR 32359, July 26, 1982, as amended at 50 FR 4514, Jan. 31, 1985]

§§ 264.252—264.253 [Reserved]

§ 264.254 Monitoring and inspection.

(a) During construction or installation, liners (except in the case of existing portions of piles exempt from § 264.251(a)) and cover systems (*e.g.*, membranes, sheets, or coatings) must be inspected for uniformity, damage, and imperfections (*e.g.*, holes, cracks, thin spots, or foreign materials). Immediately after construction or installation:

(1) Synthetic liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters; and

(2) Soil-based and admixed liners and covers must be inspected for imperfections including lenses, cracks, channels, root holes, or other structural non-uniformities that may cause an increase in the permeability of the liner or cover.

(b) While a waste pile is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

(1) Deterioration, malfunctions, or improper operation of run-on and run-off control systems;

(2) Proper functioning of wind dispersal control systems, where present; and

(3) The presence of leachate in and proper functioning of leachate collec-

tion and removal systems, where present.

(Approved by the Office of Management and Budget under control number 2050-0007)

[47 FR 32359, July 26, 1982, as amended at 50 FR 4514, Jan. 31, 1985; 50 FR 28748, July 15, 1985]

§ 264.255 [Reserved]

§ 264.256 Special requirements for ignitable or reactive waste.

Ignitable or reactive waste must not be place in a waste pile unless the waste and waste pile satisfy all applicable requirements of 40 CFR part 268, and:

(a) The waste is treated, rendered, or mixed before or immediately after placement in the pile so that:

(1) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under § 261.21 or § 261.23 of this chapter; and

(2) Section 264.17(b) is complied with; or

(b) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.

[47 FR 32359, July 26, 1982, as amended at 55 FR 22685, June 1, 1990]

§ 264.257 Special requirements for incompatible wastes.

(a) Incompatible wastes, or incompatible wastes and materials, (see Appendix V of this part for examples) must not be placed in the same pile, unless § 264.17(b) is complied with.

(b) A pile of hazardous waste that is incompatible with any waste or other material stored nearby in containers, other piles, open tanks, or surface impoundments must be separated from the other materials, or protected from them by means of a dike, berm, wall, or other device.

(c) Hazardous waste must not be piled on the same base where incompatible wastes or materials were previously piled, unless the base has been decontaminated sufficiently to ensure compliance with § 264.17(b).

§ 264.258 Closure and post-closure ca

(a) At closure, the owner or ope
must remove or decontaminat
waste residues, contaminated con
ment system components (liners,
contaminated subsoils, and struc
and equipment contaminated
waste and leachate, and manage
as hazardous waste unless § 261.3
this chapter applies.

(b) If, after removing or decon
nating all residues and making al
sonable efforts to effect removal
contamination of contaminated
ponents, subsoils, structures,
equipment as required in parag
(a) of this section, the owner or o
tor finds that not all contamin
subsoils can be practicably remov
decontaminated, he must close th
cility and perform post-closure ca
accordance with the closure and
closure care requirements that
to landfills (§ 264.310).

(c)(1) The owner or operator
waste pile that does not comply
the liner requirements
§ 264.251(a)(1) and is not exempt
them in accordance with § 264.2
or § 264.251(b), must:

(i) Include in the closure pla
the pile under § 264.112 both a
for complying with paragraph (
this section and a contingent pla
complying with paragraph (b) of
section in case not all contamin
subsoils can be practicably remov
closure; and

(ii) Prepare a contingent pos
sure plan under § 264.118 for com
ing with paragraph (b) of this se
in case not all contaminated sub
can be practicably removed at clo

(2) The cost estimates calcu
under §§ 264.142 and 264.144 fo
sure and post-closure care of a
subject to this paragraph must in
the cost of complying with the co
gent closure plan and the conti
post-closure plan, but are not req
to include the cost of expected cl
under paragraph (a) of this sectio

§ 264.259 Special requirements for h
ous wastes FO20, FO21, FO22,
FO26, and FO27.

(a) Hazardous Wastes FO20, F
FO22, FO23, FO26, and FO27

not be placed in waste piles that are not enclosed (as defined in § 264.250(c)) unless the owner or operator operates the waste pile in accordance with a management plan for these wastes that is approved by the Regional Administrator pursuant to the standards set out in this paragraph, and in accord with all other applicable requirements of this part. The factors to be considered are:

(1) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(2) The attenuative properties of underlying and surrounding soils or other materials;

(3) The mobilizing properties of other materials co-disposed with these wastes; and

(4) The effectiveness of additional treatment, design, or monitoring techniques.

(b) The Regional Administrator may determine that additional design, operating, and monitoring requirements are necessary for piles managing hazardous wastes FO20, FO21, FO22, FO23, FO26, and, FO27 in order to reduce the possibility of migration of these wastes to ground water, surface water, or air so as to protect human health and the environment.

[50 FR 2004, Jan. 14, 1985]

Subpart M—Land Treatment

SOURCE: 47 FR 32361, July 26, 1982, unless otherwise noted.

§ 264.270 Applicability.

The regulations in this subpart apply to owners and operators of facilities that treat or dispose of hazardous waste in land treatment units, except as § 264.1 provides otherwise.

§ 264.271 Treatment program.

(a) An owner or operator subject to this subpart must establish a land treatment program that is designed to ensure that hazardous constituents placed in or on the treatment zone are degraded, transformed, or immobilized within the treatment zone. The Regional Administrator will specify in the facility permit the elements of the treatment program, including:

(1) The wastes that are capable of being treated at the unit based on a demonstration under § 264.272;

(2) Design measures and operating practices necessary to maximize the success of degradation, transformation, and immobilization processes in the treatment zone in accordance with § 264.273(a); and

(3) Unsaturated zone monitoring provisions meeting the requirements of § 264.278.

(b) The Regional Administrator will specify in the facility permit the hazardous constituents that must be degraded, transformed, or immobilized under this subpart. Hazardous constituents are constituents identified in Appendix VIII of Part 261 of this chapter that are reasonably expected to be in, or derived from, waste placed in or on the treatment zone.

(c) The Regional Administrator will specify the vertical and horizontal dimensions of the treatment zone in the facility permit. The treatment zone is the portion of the unsaturated zone below and including the land surface in which the owner or operator intends to maintain the conditions necessary for effective degradation, transformation, or immobilization of hazardous constituents. The maximum depth of the treatment zone must be:

(1) No more than 1.5 meters ([illegible] feet) from the initial soil surface; and

(2) More than 1 meter (3 feet) above the seasonal high water table.

(Approved by the Office of Management and Budget under control number 2050-0007)

[47 FR 32361, July 26, 1982, as amended at 50 FR 4514, Jan. 31, 1985]

§ 264.272 Treatment demonstration.

(a) For each waste that will be applied to the treatment zone, the owner or operator must demonstrate, prior to application of the waste, that hazardous constituents in the waste can be completely degraded, transformed, or immobilized in the treatment zone.

(b) In making this demonstration, the owner or operator may use field tests, laboratory analyses, available data, or, in the case of existing units, operating data. If the owner or operator intends to conduct field tests or laboratory analyses in order to make the demonstration required under paragraph (a) of this section, he must obtain a treatment or disposal permit under § 270.63. The Regional Administrator will specify in this permit the testing, analytical, design, and operating requirements (including the duration of the tests and analyses, and, in the case of field tests, the horizontal and vertical dimensions of the treatment zone, monitoring procedures, closure and clean-up activities) necessary to meet the requirements in paragraph (c) of this section.

(c) Any field test or laboratory analysis conducted in order to make a demonstration under paragraph (a) of this section must:

(1) Accurately simulate the characteristics and operating conditions for the proposed land treatment unit including:

(i) The characteristics of the waste (including the presence of Appendix VIII of Part 261 of this chapter constituents);

(ii) The climate in the area;

(iii) The topography of the surrounding area;

(iv) The characteristics of the soil in the treatment zone (including depth); and

(v) The operating practices to be used at the unit.

(2) Be likely to show that hazardous constituents in the waste to be tested will be completely degraded, transformed, or immobilized in the treatment zone of the proposed land treatment unit; and

(3) Be conducted in a manner that protects human health and the environment considering:

(i) The characteristics of the waste to be tested;

(ii) The operating and monitoring measures taken during the course of the test;

(iii) The duration of the test;

(iv) The volume of waste used in the test;

(v) In the case of field tests, the potential for migration of hazardous constituents to ground water or surface water.

[47 FR 32361, July 26, 1982, as amended at 48 FR 14294, Apr. 1, 1983]

§ 264.273 Design and operating requirements.

The Regional Administrator will specify in the facility permit how the owner or operator will design, construct, operate, and maintain the land treatment unit in compliance with this section.

(a) The owner or operator must design, construct, operate, and maintain the unit to maximize the degradation, transformation, and immobilization of hazardous constituents in the treatment zone. The owner or operator must design, construct, operate, and maintain the unit in accord with all design and operating conditions that were used in the treatment demonstration under § 264.272. At a minimum, the Regional Administrator will specify the following in the facility permit:

(1) The rate and method of waste application to the treatment zone;

(2) Measures to control soil pH;

(3) Measures to enhance microbial or chemical reactions (*e.g.*, fertilization, tilling); and

(4) Measures to control the moisture content of the treatment zone.

(b) The owner or operator must design, construct, operate, and maintain the treatment zone to minimize run-off of hazardous constituents during the active life of the land treatment unit.

(c) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the treatment zone during peak discharge from at least a 25-year storm.

(d) The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(e) Collection and holding facilities (*e.g.*, tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain the design capacity of the system.

(f) If the treatment zone contains particulate matter which may be subject to wind dispersal, the owner or operator must manage the unit to control wind dispersal.

(g) The owner or operator must inspect the unit weekly and after storms to detect evidence of:

(1) Deterioration, malfunctions, or improper operation of run-on and run-off control systems; and

(2) Improper functioning of wind dispersal control measures.

(Approved by the Office of Management and Budget under control number 2050-0007)

[47 FR 32361, July 26, 1982, as amended at 50 FR 4514, Jan. 31, 1985]

§§ 264.274—264.275 [Reserved]

§ 264.276 Food-chain crops.

The Regional Administrator may allow the growth of food-chain crops in or on the treatment zone only if the owner or operator satisfies the conditions of this section. The Regional Administrator will specify in the facility permit the specific food-chain crops which may be grown.

(a)(1) The owner or operator must demonstrate that there is no substantial risk to human health caused by the growth of such crops in or on the treatment zone by demonstrating, prior to the planting of such crops, that hazardous constituents other than cadmium:

(i) Will not be transferred to the food or feed portions of the crop by plant uptake or direct contact, and will not otherwise be ingested by food-chain animals (*e.g.*, by grazing); or

(ii) Will not occur in greater concentrations in or on the food or feed portions of crops grown on the treatment zone than in or on identical portions of the same crops grown on untreated soils under similar conditions in the same region.

(2) The owner or operator must make the demonstration required under this paragraph prior to the planting of crops at the facility for all constituents identified in Appendix VIII of Part 261 of this chapter that are reasonably expected to be in, or derived from, waste placed in or on the treatment zone.

(3) In making a demonstration under this paragraph, the owner or operator may use field tests, greenhouse studies, available data, or, in the case of existing units, operating data, and must:

(i) Base the demonstration on conditions similar to those present in the treatment zone, including soil characteristics (*e.g.*, pH, cation exchange capacity), specific wastes, application rates, application methods, and crops to be grown; and

(ii) Describe the procedures used in conducting any tests, including the sample selection criteria, sample size, analytical methods, and statistical procedures.

(4) If the owner or operator intends to conduct field tests or greenhouse studies in order to make the demonstration required under this paragraph, he must obtain a permit for conducting such activities.

(b) The owner or operator must comply with the following conditions if cadmium is contained in wastes applied to the treatment zone:

(1)(i) The pH of the waste and soil mixture must be 6.5 or greater at the time of each waste application, except for waste containing cadmium at concentrations of 2 mg/kg (dry weight) or less;

(ii) The annual application of cadmium from waste must not exceed 0.5 kilograms per hectare (kg/ha) on land used for production of tobacco, leafy vegetables, or root crops grown for human consumption. For other food-chain crops, the annual cadmium application rate must not exceed:

Time period	Annual Cd application rate (kilograms per hectare)
Present to June 30, 1984	2.0
July 1, 1984 to December 31, 1986	1.25
Beginning January 1, 1987	0.5

(iii) The cumulative application of cadmium from waste must not exceed 5 kg/ha if the waste and soil mixture has a pH of less than 6.5; and

(iv) If the waste and soil mixture has a pH of 6.5 or greater or is maintained at a pH of 6.5 or greater during crop growth, the cumulative application of cadmium from waste must not exceed: 5 kg/ha if soil cation exchange capacity (CEC) is less than 5 meq/100g; 10 kg/ha if soil CEC is 5-15 meq/100g; and 20 kg/ha if soil CEC is greater than 15 meq/100g; or

(2)(i) Animal feed must be the only food-chain crop produced;

(ii) The pH of the waste and soil mixture must be 6.5 or greater at the time of waste application or at the time the crop is planted, whichever occurs later, and this pH level must be maintained whenever food-chain crops are grown;

(iii) There must be an operating plan which demonstrates how the animal feed will be distributed to preclude ingestion by humans. The operating plan must describe the measures to be taken to safeguard against possible health hazards from cadmium entering the food chain, which may result from alternative land uses; and

(iv) Future property owners must be notified by a stipulation in the land record or property deed which states that the property has received waste at high cadmium application rates and that food-chain crops must not be grown except in compliance with paragraph (b)(2) of this section.

§ 264.277 [Reserved]

§ 264.278 Unsaturated zone monitoring.

An owner or operator subject to this subpart must establish an unsaturated zone monitoring program to discharge the following responsibilities:

(a) The owner or operator must monitor the soil and soil-pore liquid to determine whether hazardous constituents migrate out of the treatment zone.

(1) The Regional Administrator will specify the hazardous constituents to be monitored in the facility permit. The hazardous constituents to be monitored are those specified under § 264.271(b).

(2) The Regional Administrator may require monitoring for principal hazardous constituents (PHCs) in lieu of the constituents specified under § 264.271(b). PHCs are hazardous co stituents contained in the wastes to applied at the unit that are the mo difficult to treat, considering the co bined effects of degradation, transfo mation, and immobilization. The R gional Administrator will establi PHCs if he finds, based on waste an yses, treatment demonstrations, other data, that effective degradati transformation, or immobilization the PHCs will assure treatment at least equivalent levels for the oth hazardous constituents in the wastes

(b) The owner or operator must stall an unsaturated zone monitori system that includes soil monitori using soil cores and soil-pore liqu monitoring using devices such as ly meters. The unsaturated zone mo toring system must consist of a suf cient number of sampling points at propriate locations and depths to yie samples that:

(1) Represent the quality of bac ground soil-pore liquid quality and t chemical make-up of soil that has been affected by leakage from t treatment zone; and

(2) Indicate the quality of soil-po liquid and the chemical make-up the soil below the treatment zone.

(c) The owner or operator must tablish a background value for ea hazardous constituent to be monitor under paragraph (a) of this secti The permit will specify the ba ground values for each constituent specify the procedures to be used calculate the background values.

(1) Background soil values may based on a one-time sampling at background plot having characterist similar to those of the treatment zo

(2) Background soil-pore liqu values must be based on at least qu terly sampling for one year at a ba ground plot having characterist similar to those of the treatment zo

(3) The owner or operator must press all background values in a fo necessary for the determination of s tistically significant increases un paragraph (f) of this section.

(4) In taking samples used in the termination of all background valu the owner or operator must use an saturated zone monitoring system th

complies with paragraph (b)(1) of this section.

(d) The owner or operator must conduct soil monitoring and soil-pore liquid monitoring immediately below the treatment zone. The Regional Administrator will specify the frequency and timing of soil and soil-pore liquid monitoring in the facility permit after considering the frequency, timing, and rate of waste application, and the soil permeability. The owner or operator must express the results of soil and soil-pore liquid monitoring in a form necessary for the determination of statistically significant increases under paragraph (f) of this section.

(e) The owner or operator must use consistent sampling and analysis procedures that are designed to ensure sampling results that provide a reliable indication of soil-pore liquid quality and the chemical make-up of the soil below the treatment zone. At a minimum, the owner or operator must implement procedures and techniques for:

(1) Sample collection;

(2) Sample preservation and shipment;

(3) Analytical procedures; and

(4) Chain of custody control.

(f) The owner or operator must determine whether there is a statistically significant change over background values for any hazardous constituent to be monitored under paragraph (a) of this section below the treatment zone each time he conducts soil monitoring and soil-pore liquid monitoring under paragraph (d) of this section.

(1) In determining whether a statistically significant increase has occurred, the owner or operator must compare the value of each constituent, as determined under paragraph (d) of this section, to the background value for that constituent according to the statistical procedure specified in the facility permit under this paragraph.

(2) The owner or operator must determine whether there has been a statistically significant increase below the treatment zone within a reasonable time period after completion of sampling. The Regional Administrator will specify that time period in the facility permit after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of soil and soil-pore liquid samples.

(3) The owner or operator must determine whether there is a statistically significant increase below the treatment zone using a statistical procedure that provides reasonable confidence that migration from the treatment zone will be identified. The Regional Administrator will specify a statistical procedure in the facility permit that he finds:

(i) Is appropriate for the distribution of the data used to establish background values; and

(ii) Provides a reasonable balance between the probability of falsely identifying migration from the treatment zone and the probability of failing to identify real migration from the treatment zone.

(g) If the owner or operator determines, pursuant to paragraph (f) of this section, that there is a statistically significant increase of hazardous constituents below the treatment zone, he must:

(1) Notify the Regional Administrator of this finding in writing within seven days. The notification must indicate what constituents have shown statistically significant increases.

(2) Within 90 days, submit to the Regional Administrator an application for a permit modification to modify the operating practices at the facility in order to maximize the success of degradation, transformation, or immobilization processes in the treatment zone.

(h) If the owner or operator determines, pursuant to paragraph (f) of this section, that there is a statistically significant increase of hazardous constituents below the treatment zone, he may demonstrate that a source other than regulated units caused the increase or that the increase resulted from an error in sampling, analysis, or evaluation. While the owner or operator may make a demonstration under this paragraph in addition to, or in lieu of, submitting a permit modification application under paragraph (g)(2) of this section, he is not relieved of the requirement to submit a permit modification application within the time specified in paragraph (g)(2) of this section unless the demonstration made under this paragraph successfully shows that a source other than regulated units caused the increase or that the increase resulted from an error in sampling, analysis, or evaluation. In making a demonstration under this paragraph, the owner or operator must:

(1) Notify the Regional Administrator in writing within seven days of determining a statistically significant increase below the treatment zone that he intends to make a determination under this paragraph;

(2) Within 90 days, submit a report to the Regional Administrator demonstrating that a source other than the regulated units caused the increase or that the increase resulted from error in sampling, analysis, or evaluation;

(3) Within 90 days, submit to the Regional Administrator an application for a permit modification to make any appropriate changes to the unsaturated zone monitoring program at the facility; and

(4) Continue to monitor in accordance with the unsaturated zone monitoring program established under this section.

(Approved by the Office of Management and Budget under control number 2050-0038)

[47 FR 32361, July 26, 1982, as amended at 50 FR 4514, Jan. 31, 1985]

§ 264.279 Recordkeeping.

The owner or operator must include hazardous waste application dates and rates in the operating record required under § 264.73.

(Approved by the Office of Management and Budget under control number 2050-0007)

[47 FR 32361, July 26, 1982, as amended at 50 FR 4514, Jan. 31, 1985]

§ 264.280 Closure and post-closure care.

(a) During the closure period the owner or operator must:

(1) Continue all operations (including pH control) necessary to maximize degradation, transformation, or immobilization of hazardous constituents within the treatment zone as required under § 264.273(a), except to the extent such measures are inconsistent with paragraph (a)(8) of this section.

(2) Continue all operations in the treatment zone to minimize run-off of hazardous constituents as required under § 264.273(b);

(3) Maintain the run-on control system required under § 264.273(c);

(4) Maintain the run-off management system required under § 264.273(d);

(5) Control wind dispersal of hazardous waste if required under § 264.273(f);

(6) Continue to comply with any prohibitions or conditions concerning growth of food-chain crops under § 264.276;

(7) Continue unsaturated zone monitoring in compliance with § 264.278, except that soil-pore liquid monitoring may be terminated 90 days after the last application of waste to the treatment zone; and

(8) Establish a vegetative cover on the portion of the facility being closed at such time that the cover will not substantially impede degradation, transformation, or immobilization of hazardous constituents in the treatment zone. The vegetative cover must be capable of maintaining growth without extensive maintenance.

(b) For the purpose of complying with § 264.115, when closure is completed the owner or operator may submit to the Regional Administrator certification by an independent qualified soil scientist, in lieu of an independent registered professional engineer, that the facility has been closed in accordance with the specifications in the approved closure plan.

(c) During the post-closure care period the owner or operator must:

(1) Continue all operations (including pH control) necessary to enhance degradation and transformation and sustain immobilization of hazardous constituents in the treatment zone to the extent that such measures are consistent with other post-closure care activities;

(2) Maintain a vegetative cover over closed portions of the facility;

(3) Maintain the run-on control system required under § 264.273(c);

(4) Maintain the run-off management system required under § 264.273(d);

(5) Control wind dispersal of hazardous waste if required under § 264.273(f);

(6) Continue to comply with any prohibitions or conditions concerning growth of food-chain crops under § 264.276; and

(7) Continue unsaturated zone monitoring in compliance with § 264.278, expect that soil-pore liquid monitoring may be terminated 90 days after the last application of waste to the treatment zone.

(d) The owner or operator is not subject to regulation under paragraphs (a)(8) and (c) of this section if the Regional Administrator finds that the level of hazardous constituents in the treatment zone soil does not exceed the background value of those constituents by an amount that is statistically significant when using the test specified in paragraph (d)(3) of this section. The owner or operator may submit such a demonstration to the Regional Administrator at any time during the closure of post-closure care periods. For the purposes of this paragraph:

(1) The owner or operator must establish background soil values and determine whether there is a statistically significant increase over those values for all hazardous constituents specified in the facility permit under § 264.271 (b).

(i) Background soil values may be based on a one-time sampling of a background plot having characteristics similar to those of the treatment zone.

(ii) The owner or operator must express background values and values for hazardous constituents in the treatment zone in a form necessary for the determination of statistically significant increases under paragraph (d)(3) of this section.

(2) In taking samples used in the determination of background and treatment zone values, the owner or operator must take samples at a sufficient number of sampling points and at appropriate locations and depths to yield samples that represent the chemical make-up of soil that has not been affected by leakage from the treatment zone and the soil within the treatment zone, respectively.

(3) In determining whether a statistically significant increase has occurred, the owner or operator must compare the value of each constituent in the treatment zone to the background value for that constituent using a statistical procedure that provides reasonable confidence that constituent presence in the treatment zone will be identified. The owner or operator must use a statistical procedure that:

(i) Is appropriate for the distribution of the data used to establish background values; and

(ii) Provides a reasonable balance between the probability of falsely identifying hazardous constituent presence in the treatment zone and the probability of failing to identify real presence in the treatment zone.

(e) The owner or operator is not subject to regulation under Subpart F of this chapter if the Regional Administrator finds that the owner or operator satisfies paragraph (d) of this section and if unsaturated zone monitoring under § 264.278 indicates that hazardous constituents have not migrated beyond the treatment zone during the active life of the land treatment unit.

§ 264.281 Special requirements for ignitable or reactive waste.

The owner or operator must not apply ignitable or reactive waste to the treatment zone unless the waste and the treatment zone meet all applicable requirements of 40 CFR part 268, and:

(a) The waste is immediately incorporated into the soil so that:

(1) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under § 261.21 or § 261.23 of this chapter; and

(2) Section 264.17(b) is complied with; or

(b) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.

[47 FR 32361, July 26, 1982, as amended at 55 FR 22685, June 1, 1990]

§ 264.282 Special requirements for incompatible wastes.

The owner or operator must not place incompatible wastes, or incompatible wastes and materials (see Appendix V of this part for examples), in or on the same treatment zone, unless § 264.17(b) is complied with.

§ 264.283 Special requirements for hazardous wastes FO20, FO21, FO22, FO23, FO26, and FO27.

(a) Hazardous Wastes FO20, FO21, FO22, FO23, FO26 and, FO27 must not be placed in a land treatment unit unless the owner or operator operates the facility in accordance with a management plan for these wastes that is approved by the Regional Administrator pursuant to the standards set out in this paragraph, and in accord with all other applicable requirements of this part. The factors to be considered are:

(1) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(2) The attenuative properties of underlying and surrounding soils or other materials;

(3) The mobilizing properties of other materials co-disposed with these wastes; and

(4) The effectiveness of additional treatment, design, or monitoring techniques.

(b) The Regional Administrator may determine that additional design, operating, and monitoring requirements are necessary for land treatment facilities managing hazardous wastes FO20, FO21, FO22, FO23, FO26, and FO27 in order to reduce the possibility of migration of these wastes to ground water, surface water, or air so as to protect human health and the environment.

[50 FR 2004, Jan. 14, 1985]

Subpart N—Landfills

SOURCE: 47 FR 32365, July 26, 1982, unless otherwise noted.

§ 264.300 Applicability.

The regulations in this subpart apply to owners and operators of facilities that dispose of hazardous waste in landfills, except as § 264.1 provides otherwise.

§ 264.301 Design and operating requirements.

(a) Any landfill that is not covered by paragraph (c) of this section or § 265.301(a) of this chapter must have a liner system for all portions of the landfill (except for existing portions of such landfill). The liner system must have:

(1) A liner that is designed, constructed, and installed to prevent any migration of wastes out of the landfill to the adjacent subsurface soil or ground water or surface water at anytime during the active life (including the closure period) of the landfill. The liner must be constructed of materials that prevent wastes from passing into the liner during the active life of the facility. The liner must be:

(i) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

(ii) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and

(iii) Installed to cover all surrounding earth likely to be in contact with the waste or leachate; and

(2) A leachate collection and removal system immediately above the liner that is designed, constructed, maintained, and operated to collect and remove leachate from the landfill. The Regional Administrator will specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed 30 cm (one foot). The leachate collection and removal system must be:

(i) Constructed of materials that are

(A) Chemically resistant to the
aste managed in the landfill and the
achate expected to be generated; and

(B) Of sufficient strength and thick-
ess to prevent collapse under the
ressures exerted by overlying wastes,
aste cover materials, and by any
quipment used at the landfill; and

(ii) Designed and operated to func-
ion without clogging through the
cheduled closure of the landfill.

(b) The owner or operator will be ex-
mpted from the requirements of
aragraph (a) of this section if the Re-
ional Administrator finds, based on a
emonstration by the owner or opera-
or, that alternative design and operat-
g practices, together with location
haracteristics, will prevent the migra-
on of any hazardous constituents
ee § 264.93) into the ground water or
rface water at any future time. In
eciding whether to grant an exemp-
on, the Regional Administrator will
onsider:

(1) The nature and quantity of the
astes;

(2) The proposed alternate design
d operation;

(3) The hydrogeologic setting of the
cility, including the attenuative ca-
acity and thickness of the liners and
ils present between the landfill and
ound water or surface water; and

(4) All other factors which would in-
uence the quality and mobility of the
achate produced and the potential
r it to migrate to ground water or
rface water.

(c) The owner or operator of each
w landfill, each new landfill unit at
existing facility, each replacement
an existing landfill unit, and each
teral expansion of an existing land-
l unit, must install two or more
ers and a leachate collection system
ove and between the liners. The
ers and leachate collection systems
ust protect human health and the
vironment. The requirements of this
ragraph shall apply with respect to
waste received after issuance of the
rmit for units where the part B of
e permit application is received by
e Regional Administrator after No-
mber 8, 1984. The requirement for
e installation of two or more liners
this paragraph may be satisfied by
e installation of a top liner designed, operated, and constructed of materials to prevent the migration of any constituent into such liner during the period such facility remains in operation (including any post-closure monitoring period), and a lower liner designed, operated, and constructed to prevent the migration of any constituent through such liner during such period. For the purpose of the preceding sentence, a lower liner shall be deemed to satisfy such requirement if it is constructed of at least a 3-foot thick layer of recompacted clay or other natural material with a permeability of no more than 1×10^{-7} centimeter per second.

(d) Paragraph (c) of this section will not apply if the owner or operator demonstrates to the Regional Administrator, and the Regional Administrator finds for such landfill, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituent into the ground water or surface water at least as effectively as such liners and leachate collection systems.

(e) The double liner requirement set forth in paragraph (c) of this section may be waived by the Regional Administrator for any monofill, if:

(1) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes hazardous for reasons other than the Toxicity Characteristic in § 261.24 of this chapter, with EPA Hazardous Waste Numbers D004 through D017; and

(2)(i)(A) The monofill has at least one liner for which there is no evidence that such liner is leaking;

(B) The monofill is located more than one-quarter mile from an underground source of drinking water (as that term is defined in § 144.3 of this chapter); and

(C) The monofill is in compliance with generally applicable groundwater monitoring requirements for facilities with permits under RCRA 3005(c); or

(ii) The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.

(f) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the landfill during peak discharge from at least a 25-year storm.

(g) The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(h) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(i) If the landfill contains any particulate matter which may be subject to wind dispersal, the owner or operator must cover or otherwise manage the landfill to control wind dispersal.

(j) The Regional Administrator will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied.

(k) Any permit under RCRA 3005(c) which is issued for a landfill located within the State of Alabama shall require the installation of two or more liners and a leachate collection system above and between such liners, notwithstanding any other provision of RCRA.

(Approved by the Office of Management and Budget under control number 2050-0007)

[47 FR 32365, July 26, 1982, as amended at 50 FR 4514, Jan. 31, 1985; 50 FR 28748, July 15, 1985; 55 FR 11875, Mar. 29, 1990; 55 FR 19264, May 9, 1990]

EFFECTIVE DATE NOTE: At 55 FR 11875, Mar. 29, 1990, § 264.301 paragraph (e)(1) was revised, effective September 25, 1990. For the convenience of the user, the superseded text is set forth below:

§ 264.301 Design and operating requirements.

* * * * *

(e)* * *

(1) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes hazardous for reasons other than the EP toxicity characteristics in § 261.24 of this chapter; and

* * * * *

§ 264.302 [Reserved]

§ 264.303 Monitoring and inspection.

(a) During construction or installation, liners (except in the case of existing portions of landfills exempt from § 264.301(a)) and cover systems (e.g., membranes, sheets, or coatings) must be inspected for uniformity, damage, and imperfections (*e.g.*, holes, cracks, thin spots, or foreign materials). Immediately after construction or installation:

(1) Synthetic liners and covers must be inspected to ensure tight seams and joints and the absence of tears, punctures, or blisters; and

(2) Soil-based and admixed liners and covers must be inspected for imperfections including lenses, cracks, channels, root holes, or other structural non-uniformities that may cause an increase in the permeability of the liner or cover.

(b) While a landfill is in operation, it must be inspected weekly and after storms to detect evidence of any of the following:

(1) Deterioration, malfunctions, or improper operation of run-on and run-off control systems;

(2) Proper functioning of wind dispersal control systems, where present; and

(3) The presence of leachate in and proper functioning of leachate collection and removal systems, where present.

[47 FR 32365, July 26, 1982, as amended at 50 FR 28748, July 15, 1985]

§§ 264.304—264.308 [Reserved]

§ 264.309 Surveying and recordkeeping.

The owner or operator of a landfill must maintain the following items in the operating record required under § 264.73:

(a) On a map, the exact location and dimensions, including depth, of each cell with respect to permanently surveyed benchmarks; and

(b) The contents of each cell and the approximate location of each hazardous waste type within each cell.

(Approved by the Office of Management and Budget under control number 2050-0007)

[47 FR 32365, July 26, 1982, as amended at 50 FR 4514, Jan. 31, 1985]

§ 264.310 Closure and post-closure care.

(a) At final closure of the landfill or upon closure of any cell, the owner or operator must cover the landfill or cell with a final cover designed and constructed to:

(1) Provide long-term minimization of migration of liquids through the closed landfill;

(2) Function with minimum maintenance;

(3) Promote drainage and minimize erosion or abrasion of the cover;

(4) Accommodate settling and subsidence so that the cover's integrity is maintained; and

(5) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(b) After final closure, the owner or operator must comply with all post-closure requirements contained in §§ 264.117 through 264.120, including maintenance and monitoring throughout the post-closure care period (specified in the permit under § 264.117). The owner or operator must:

(1) Maintain the integrity and effectiveness of the final cover, including making repairs to the cap as necessary to correct the effects of settling, subsidence, erosion, or other events;

(2) Continue to operate the leachate collection and removal system until leachate is no longer detected;

(3) Maintain and monitor the ground-water monitoring system and comply with all other applicable requirements of Subpart F of this part;

(4) Prevent run-on and run-off from eroding or otherwise damaging the final cover; and

(5) Protect and maintain surveyed benchmarks used in complying with § 264.309.

[47 FR 32365, July 26, 1982, as amended at 50 FR 28748, July 15, 1985]

§ 264.311 [Reserved]

§ 264.312 Special requirements for ignitable or reactive waste.

(a) Except as provided in paragraph (b) of this section, and in § 264.316, ignitable or reactive waste must not be placed in a landfill, unless the waste and landfill meet all applicable requirements of part 268, and:

(1) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under § 261.21 or § 261.23 of this chapter; and

(2) Section 264.17(b) is complied with.

(b) Except for prohibited wastes which remain subject to treatment standards in subpart D of part 268, ignitable wastes in containers may be landfilled without meeting the requirements of paragraph (a) of this section, provided that the wastes are disposed of in such a way that they are protected from any material or conditions which may cause them to ignite. At a minimum, ignitable wastes must be disposed of in non-leaking containers which are carefully handled and placed so as to avoid heat, sparks, rupture, or any other condition that might cause ignition of the wastes; must be covered daily with soil or other non-combustible material to minimize the potential for ignition of the wastes; and must not be disposed of in cells that contain or will contain other wastes which may generate heat sufficient to cause ignition of the waste.

[47 FR 32365, July 26, 1982, as amended at 55 FR 22685, June 1, 1990]

§ 264.313 Special requirements for incompatible wastes.

Incompatible wastes, or incompatible wastes and materials, (see Appendix V of this part for examples) must not be placed in the same landfill cell, unless § 264.17(b) is complied with.

§ 264.314 Special requirements for bulk and containerized liquids.

(a) Bulk or non-containerized liquid waste or waste containing free liquids may be placed in a landfill prior to May 8, 1985 only if:

(1) The landfill has a liner and leachate collection and removal system that meet the requirements of § 264.301(a); or

(2) Before disposal, the liquid waste or waste containing free liquids is treated or stabilized, chemically or physically (e.g., by mixing with an absorbent solid), so that free liquids are no longer present.

(b) Effective May 8, 1985, the placement of bulk or non-containerized liquid hazardous waste or hazardous waste containing free liquids (whether or not absorbents have been added) in any landfill is prohibited.

(c) To demonstrate the absence or presence of free liquids in either a containerized or a bulk waste, the following test must be used: Method 9095 (Paint Filter Liquids Test) as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods." [EPA Publication No. SW-846].

(d) Containers holding free liquids must not be placed in a landfill unless:

(1) All free-standing liquid: (i) has been removed by decanting, or other methods; (ii) has been mixed with absorbent or solidified so that free-standing liquid is no longer observed; or (iii) has been otherwise eliminated; or

(2) The container is very small, such as an ampule; or

(3) The container is designed to hold free liquids for use other than storage, such as a battery or capacitor; or

(4) The container is a lab pack as defined in § 264.316 and is disposed of in accordance with § 264.316.

(e) Effective November 8, 1985, the placement of any liquid which is not a hazardous waste in a landfill is prohibited unless the owner or operator of such landfill demonstrates to the Regional Administrator, or the Regional Administrator determines, that:

(1) The only reasonably available alternative to the placement in such landfill is placement in a landfill or unlined surface impoundment, whether or not permitted or operating under interim status, which contains, or may reasonably be anticipated to contain, hazardous waste; and

(2) Placement in such owner or operator's landfill will not present a risk of contamination of any underground source of drinking water (as that term is defined in § 144.3 of this chapter.)

(Approved by the Office of Management and Budget under control number 2050-0037)

[47 FR 32365, July 26, 1982, as amended at 50 FR 18374, Apr. 30, 1985; 50 FR 28748, July 15, 1985]

§ 264.315 Special requirements for containers.

Unless they are very small, such as an ampule, containers must be either:

(a) At least 90 percent full when placed in the landfill; or

(b) Crushed, shredded, or similarly reduced in volume to the maximum practical extent before burial in the landfill.

§ 264.316 Disposal of small containers of hazardous waste in overpacked drums (lab packs).

Small containers of hazardous waste in overpacked drums (lab packs) may be placed in a landfill if the following requirements are met:

(a) Hazardous waste must be packaged in non-leaking inside containers. The inside containers must be of a design and constructed of a material that will not react dangerously with, be decomposed by, or be ignited by the contained waste. Inside containers must be tightly and securely sealed. The inside containers must be of the size and type specified in the Department of Transportation (DOT) hazardous materials regulations (49 CFR Parts 173, 178, and 179), if those regulations specify a particular inside container for the waste.

(b) The inside containers must be overpacked in an open head DOT-specification metal shipping container (49 CFR Parts 178 and 179) of no more than 416-liter (110 gallon) capacity and surrounded by, at a minimum, a sufficient quantity of absorbent material to completely absorb all of the liquid contents of the inside containers. The metal outer container must be full after packing with inside containers and absorbent material.

(c) The absorbent material used must not be capable of reacting dangerously with, being decomposed by, or being ignited by the contents of the inside containers in accordance with § 264.17(b).

(d) Incompatible wastes, as defined in § 260.10 of this chapter, must not be placed in the same outside container.

(e) Reactive wastes, other than cyanide- or sulfide-bearing waste as defined in § 261.23(a)(5) of this chapter, must be treated or rendered non-reactive prior to packaging in accordance with paragraphs (a) through (d) of this section. Cyanide- and sulfide-bearing reactive waste may be packed in accordance with paragraphs (a) through (d) of this section without first being treated or rendered non-reactive.

(f) Such disposal is in compliance with the requirements of Part 268. Persons who incinerate lab packs according to the requirements in 40 CFR 268.42(c)(1) may use fiber drums in place of metal outer containers. Such fiber drums must meet the DOT specifications in 49 CFR 173.12 and be overpacked according to the requirements in paragraph (b) of this section.

[47 FR 32365, July 26, 1982, as amended at 55 FR 22685, June 1, 1990]

§ 264.317 Special requirements for hazardous wastes FO20, FO21, FO22, FO23, FO26, and FO27.

(a) Hazardous Wastes FO20, FO21, FO22, FO23, FO26, and FO27 must not be placed in a landfills unless the owner or operator operates the landfill in accord with a management plan for these wastes that is approved by the Regional Administrator pursuant to the standards set out in this paragraph, and in accord with all other applicable requirements of this part. The factors to be considered are:

(1) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through the soil or to volatilize or escape into the atmosphere;

(2) The attenuative properties of underlying and surrounding soils or other materials;

(3) The mobilizing properties of other materials co-disposed with these wastes; and

(4) The effectiveness of additional treatment, design, or monitoring requirements.

(b) The Regional Administrator may determine that additional design, operating, and monitoring requirements are necessary for landfills managing hazardous wastes FO20, FO21, FO22, FO23, FO26, and FO27 in order to reduce the possibility of migration of these wastes to ground water, surface water, or air so as to protect human health and the environment.

[50 FR 2004, Jan. 14, 1985]

Subpart O—Incinerators

§ 264.340 Applicability.

(a) The regulations in this subpart apply to owners or operators of facilities that incinerate hazardous waste, except as § 264.1 provides otherwise. The following facility owners or operators are considered to incinerate hazardous waste:

(1) Owners or operators of hazardous waste incinerators (as defined in § 260.10 of this chapter); and

(2) Owners or operators who burn hazardous waste in boilers or in industrial furnaces in order to destroy them, or who burn hazardous waste in boilers or in industrial furnaces for any recycling purpose and elect to be regulated under this subpart.

(b) After consideration of the waste analysis included with Part B of the permit application, the Regional Administrator, in establishing the permit conditions, must exempt the applicant from all requirements of this subpart except § 264.341 (Waste analysis) and § 264.351 (Closure),

(1) If the Regional Administrator finds that the waste to be burned is:

(i) Listed as a hazardous waste in Part 261, Subpart D, of this chapter solely because it is ignitable (Hazard Code I), corrosive (Hazard Code C), or both; or

(ii) Listed as a hazardous waste in Part 261, Subpart D, of this chapter solely because it is reactive (Hazard Code R) for characteristics other than those listed in § 261.23(a) (4) and (5), and will not be burned when other hazardous wastes are present in the combustion zone; or

(iii) A hazardous waste solely because it possesses the characteristic of ignitability, corrosivity, or both, as determined by the test for characteristics of hazardous wastes under Part 261, Subpart C, of this chapter; or

(iv) A hazardous waste solely because it possesses any of the reactivity characteristics described by § 261.23(a) (1), (2), (3), (6), (7), and (8) of this chapter, and will not be burned when other hazardous wastes are present in the combustion zone; and

(2) If the waste analysis shows that the waste contains none of the hazardous constituents listed in Part 261, Appendix VIII, of this chapter, which would reasonably be expected to be in the waste.

(c) If the waste to be burned is one which is described by paragraphs (b)(1)(i), (ii), (iii), or (iv) of this section and contains insignificant concentrations of the hazardous constituents listed in Part 261, Appendix VIII, of this chapter, then the Regional Administrator may, in establishing permit conditions, exempt the applicant from all requirements of this subpart, except § 264.341 (Waste analysis) and § 264.351 (Closure), after consideration of the waste analysis included with Part B of the permit application, unless the Regional Administrator finds that the waste will pose a threat to human health and the environment when burned in an incinerator.

(d) The owner or operator of an incinerator may conduct trial burns subject only to the requirements of § 270.62 of this chapter (Short term and incinerator permits).

[46 FR 7678, Jan. 23, 1981, as amended at 47 FR 27532, June 24, 1982; 48 FR 14295, Apr. 1, 1983; 50 FR 665, Jan. 4, 1985; 50 FR 49203, Nov. 29, 1985]

§ 264.341 Waste analysis.

(a) As a portion of the trial burn plan required by § 270.62 of this chapter, or with Part B of the permit application, the owner or operator must have included an analysis of the waste feed sufficient to provide all information required by § 270.62(b) or § 270.19 of this chapter. Owners or operators of new hazardous waste incinerators must provide the information required by § 270.62(c) or § 270.19 of this chapter to the greatest extent possible.

(b) Throughout normal operation the owner or operator must conduct sufficient waste analysis to verify that waste feed to the incinerator is within the physical and chemical composition limits specified in his permit (under § 264.345(b)).

(Approved by the Office of Management and Budget under control number 2050-0002)

[46 FR 7678, Jan. 23, 1981, as amended at 47 FR 27532, June 24, 1982; 48 FR 14295, Apr. 1, 1983; 48 FR 30115, June 30, 1983; 50 FR 4514, Jan. 31, 1985]

§ 264.342 Principal organic hazardous constituents (POHCs).

(a) Principal Organic Hazardous Constituents (POHCs) in the waste feed must be treated to the extent required by the performance standard of § 264.343.

(b)(1) One or more POHCs will be specified in the facility's permit, from among those constituents listed in Part 261, Appendix VIII of this chapter, for each waste feed to be burned. This specification will be based on the degree of difficulty of incineration of the organic constituents in the waste and on their concentration or mass in the waste feed, considering the results of waste analyses and trial burns or alternative data submitted with Part B of the facility's permit application. Organic constituents which represent the greatest degree of difficulty of incineration will be those most likely to be designated as POHCs. Constituents are more likely to be designated as POHCs if they are present in large quantities or concentrations in the waste.

(2) Trial POHCs will be designated for performance of trial burns in accordance with the procedure specified in § 270.62 of this chapter for obtaining trial burn permits.

[46 FR 7678, Jan. 23, 1981, as amended at 48 FR 14295, Apr. 1, 1983]

§ 264.343 Performance standards.

An incinerator burning hazardous waste must be designed, constructed, and maintained so that, when operated in accordance with operating requirements specified under § 264.345, it will meet the following performance standards:

(a)(1) Except as provided in paragraph (a)(2) of this section, an incinerator burning hazardous waste must achieve a destruction and removal efficiency (DRE) of 99.99% for each principal organic hazardous constituent (POHC) designated (under § 264.342) in its permit for each waste feed. DRE is determined for each POHC from the following equation:

$$DRE = \frac{(W_{in} - W_{out})}{W_{in}} \times 100\%$$

where:

W_{in} = mass feed rate of one principal organic hazardous constituent (POHC) in the waste stream feeding the incinerator

and

W_{out} = mass emission rate of the same POHC present in exhaust emissions prior to release to the atmosphere.

(2) An incinerator burning hazardous wastes FO20, FO21, FO22, FO23, FO26, or FO27 must achieve a destruction and removal efficiency (DRE) of 99.9999% for each principal organic hazardous constituent (POHC) designated (under § 264.342) in its permit. This performance must be demonstrated on POHCs that are more difficult to incinerate than tetra-, penta-, and hexachlorodibenzo-*p*-dioxins and dibenzofurans. DRE is determined for each POHC from the equation in § 264.343(a)(1). In addition, the owner or operator of the incinerator must notify the Regional Administrator of his intent to incinerate hazardous wastes FO20, FO21, FO22, FO23, FO26, or FO27.

(b) An incinerator burning hazardous waste and producing stack emissions of more than 1.8 kilograms per hour (4 pounds per hour) of hydrogen chloride (HCl) must control HCl emissions such that the rate of emission is no greater than the larger of either 1.8 kilograms per hour or 1% of the HCl in the stack gas prior to entering any pollution control equipment.

(c) An incinerator burning hazardous waste must not emit particulate matter in excess of 180 milligrams per dry standard cubic meter (0.08 grains per dry standard cubic foot) when corrected for the amount of oxygen in the stack gas according to the formula:

$$P_c = P_m \times \frac{14}{21 - Y}$$

Where P_c is the corrected concentration of particulate matter, P_m is the measured concentration of particulate matter, and Y is the measured concentration of oxygen in the stack gas, using the Orsat method for oxygen analysis of dry flue gas, presented in Part 60, Appendix A (Method 3), of this chapter. This correction procedure is to be used by all hazardous waste incinerators except those operating under conditions of oxygen enrichment. For these facilities, the Regional Administrator will select an appropriate correction procedure, to be specified in the facility permit.

(d) For purposes of permit enforcement, compliance with the operating requirements specified in the permit (under § 264.345) will be regarded as compliance with this section. However, evidence that compliance with those permit conditions is insufficient to ensure compliance with the performance requirements of this section may be "information" justifying modification, revocation, or reissuance of a permit under § 270.41 of this chapter.

[46 FR 7678, Jan. 23, 1981, as amended at 47 FR 27532, June 24, 1982; 48 FR 14295, Apr. 1, 1983; 50 FR 2005, Jan. 14, 1985]

§ 264.344 Hazardous waste incinerator permits.

(a) The owner or operator of a hazardous waste incinerator may burn only wastes specified in his permit and only under operating conditions specified for those wastes under § 264.345, except:

(1) In approved trial burns under § 270.62 of this chapter; or

(2) Under exemptions created by § 264.340.

(b) Other hazardous wastes may be burned only after operating conditions have been specified in a new permit or a permit modification as applicable. Operating requirements for new wastes may be be based on either trial burn results or alternative data included with Part B of a permit application under § 270.19 of this chapter.

(c) The permit for a new hazardous waste incinerator must establish appropriate conditions for each of the applicable requirements of this subpart, including but not limited to allowable waste feeds and operating conditions necessary to meet the requirements of § 264.345, sufficient to comply with the following standards:

(1) For the period beginning with initial introduction of hazardous waste to the incinerator and ending with initiation of the trial burn, and only for the minimum time required to establish operating conditions required in paragraph (c)(2) of this section, not to exceed a duration of 720 hours operating time for treatment of hazardous waste, the operating requirements must be those most likely to ensure compliance with the performance standards of § 264.343, based on the Regional Administrator's engineering judgment. The Regional Administrator may extend the duration of this period once for up to 720 additional hours when good cause for the extension is demonstrated by the applicant.

(2) For the duration of the trial burn, the operating requirements must be sufficient to demonstrate compliance with the performance standards of § 264.343 and must be in accordance with the approved trial burn plan;

(3) For the period immediately following completion of the trial burn, and only for the minimum period sufficient to allow sample analysis, data computation, and submission of the trial burn results by the applicant, and review of the trial burn results and modification of the facility permit by the Regional Administrator, the operating requirements must be those most likely to ensure compliance with the performance standards of § 264.343, based on the Regional Administrator's engineering judgement.

(4) For the remaining duration of the permit, the operating requirements must be those demonstrated, in a trial burn or by alternative data specified in § 270.19(c) of this chapter, as sufficient to ensure compliance with the performance standards of § 264.343.

(Approved by the Office of Management and Budget under control number 2050-0002)

[46 FR 7678, Jan. 23, 1981, as amended at 47 FR 27532, June 24, 1982; 48 FR 14295, Apr. 1, 1983; 50 FR 4514, Jan. 31, 1985]

§ 264.345 Operating requirements.

(a) An incinerator must be operated in accordance with operating requirements specified in the permit. These will be specified on a case-by-case basis as those demonstrated (in a trial burn or in alternative data as specified in § 264.344(b) and included with Part B of a facility's permit application) to be sufficient to comply with the performance standards of § 264.343.

(b) Each set of operating requirements will specify the composition of the waste feed (including acceptable variations in the physical or chemical properties of the waste feed which will not affect compliance with the performance requirement of § 264.343) to which the operating requirements apply. For each such waste feed, the permit will specify acceptable operating limits including the following conditions:

(1) Carbon monoxide (CO) level in the stack exhaust gas;

(2) Waste feed rate;

(3) Combustion temperature;

(4) An appropriate indicator of combustion gas velocity;

(5) Allowable variations in incinerator system design or operating procedures; and

(6) Such other operating requirements as are necessary to ensure that the performance standards of § 264.343 are met.

(c) During start-up and shut-down of an incinerator, hazardous waste (except wastes exempted in accordance with § 264.340) must not be fed into the incinerator unless the incinerator is operating within the conditions f operation (temperature, air feed ate, etc.) specified in the permit.

(d) Fugitive emissions from the com- ustion zone must be controlled by:

(1) Keeping the combustion zone to- ally sealed against fugitive emissions; r

(2) Maintaining a combustion zone ressure lower than atmospheric pres- ure; or

(3) An alternate means of control emonstrated (with Part B of the ermit application) to provide fugitive missions control equivalent to main- enance of combustion zone pressure wer than atmospheric pressure.

(e) An incinerator must be operated ith a functioning system to automati- lly cut off waste feed to the inciner- or when operating conditions devi- e from limits established under para- aph (a) of this section.

(f) An incinerator must cease oper- ion when changes in waste feed, in- cerator design, or operating condi- ons exceed limits designated in its rmit.

pproved by the Office of Management d Budget under control number 2050- 02)

FR 7678, Jan. 23, 1981, as amended at 47 27532, June 24, 1982; 50 FR 4514, Jan. 1985]

64.346 [Reserved]

64.347 Monitoring and inspections.

a) The owner or operator must con- ct, as a minimum, the following onitoring while incinerating hazard- s waste:

1) Combustion temperature, waste d rate, and the indicator of combus- n gas velocity specified in the facili- permit must be monitored on a con- uous basis.

2) CO must be monitored on a con- uous basis at a point in the inciner- r downstream of the combustion e and prior to release to the atmos- ere.

3) Upon request by the Regional ministrator, sampling and analysis the waste and exhaust emissions st be conducted to verify that the rating requirements established in permit achieve the performance ndards of § 264.343.

(b) The incinerator and associated equipment (pumps, valves, conveyors, pipes, etc.) must be subjected to thorough visual inspection, at least daily, for leaks, spills, fugitive emissions, and signs of tampering.

(c) The emergency waste feed cutoff system and associated alarms must be tested at least weekly to verify operability, unless the applicant demonstrates to the Regional Administrator that weekly inspections will unduly restrict or upset operations and that less frequent inspection will be adequate. At a minimum, operational testing must be conducted at least monthly.

(d) This monitoring and inspection data must be recorded and the records must be placed in the operating log required by § 264.73.

(Approved by the Office of Management and Budget under control number 2050-0002)

[46 FR 7678, Jan. 23, 1981, as amended at 47 FR 27533, June 24, 1982; 50 FR 4514, Jan. 31, 1985]

§§ 264.348—264.350 [Reserved]

§ 264.351 Closure.

At closure the owner or operator must remove all hazardous waste and hazardous waste residues (including, but not limited to, ash, scrubber waters, and scrubber sludges) from the incinerator site.

[*Comment:* At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with § 261.3(d) of this chapter, that the residue removed from the incinerator is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with applicable requirements of Parts 262 through 266 of this chapter.]

[46 FR 7678, Jan. 23, 1981]

Subparts P–W [Reserved]

Subpart X—Miscellaneous Units

SOURCE: 52 FR 46964, Dec. 10, 1987, unless otherwise noted.

§ 264.600 Applicability.

The requirements in this subpart apply to owners and operators of facilities that treat, store, or dispose of hazardous waste in miscellanenous units, except as § 264.1 provide otherwise.

§ 264.601 Environmental performance standards.

A miscellaneous unit must be located, designed, constructed, operated, maintained, and closed in a manner that will ensure protection of human health and the environment. Permits for miscellaneous units are to contain such terms and provisions as necessary to protect human health and the environment, including, but not limited to, as appropriate, design and operating requirements, detection and monitoring requirements, and requirements for responses to releases of hazardous waste or hazardous constituents from the unit. Permit terms and provisions shall include those requirements of Subparts I through 0 of this part, Part 270, and Part 146 that are appropriate for the miscellaneous unit being permitted. Protection of human health and the environment includes, but is not limited to:

(a) Prevention of any releases that may have adverse effects on human heath or the environment due to migration of waste constituents in the ground water or subsurface environment, considering:

(1) The volume and physical and chemical characteristics of the waste in the unit, including its potential for migration through soil, liners, or other containing structures;

(2) The hydrologic and geologic characteristics of the unit and the surrounding area;

(3) The existing quality of ground water, including other sources of contamination and their cumulative impact on the ground water;

(4) The quantity and direction of ground-water flow;

(5) The proximity to and withdrawal rates of current and potential ground-water users;

(6) The patterns of land use in the region;

(7) The potential for deposition or migration of waste constituents into subsurface physical structures, and into the root zone of food-chain crops and other vegetation;

(8) The potential for health risks caused by human exposure to waste constituents; and

(9) The potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents;

(b) Prevention of any releases that may have adverse effects on human health or the environment due to migration of waste constituents in surface water, or wetlands or on the soil surface considering:

(1) The volume and physical and chemical characteristics of the waste in the unit;

(2) The effectiveness and reliability of containing, confining, and collecting systems and structures in preventing migration;

(3) The hydrologic characteristics of the unit and the surrounding area, including the topography of the land around the unit;

(4) The patterns of precipitation in the region;

(5) The quantity, quality, and direction of ground-water flow;

(6) The proximity of the unit to surface waters;

(7) The current and potential uses of nearby surface waters and any water quality standards established for those surface waters;

(8) The existing quality of surface waters and surface soils, including other sources of contamination and their cumulative impact on surface waters and surface soils;

(9) The patterns of land use in the region;

(10) The potential for health risks caused by human exposure to waste constituents; and

(11) The potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures caused by exposure to waste constitutents.

(c) Prevention of any release that may have adverse effects on human health or the environment due to migration of waste constituents in the air, considering:

(1) The volume and physical and chemical characteristics of the waste in the unit, including its potential for the emission and dispersal of gases aerosols and particulates;

(2) The effectiveness and reliability of systems and structures to reduce or prevent emissions of hazardous constituents to the air;

(3) The operating characteristics of the unit;

(4) The atmospheric, metorologic, and topographic characteristics of the unit and the surrounding area;

(5) The existing quality of the air, including other sources of contamination and their cumulative impact on the air;

(6) The potential for health risks caused by human exposure to waste constituents; and

(7) The potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents.

§ 264.602 Monitoring, analysis, inspection, response, reporting, and corrective action.

Monitoring, testing, analytical data, inspections, response, and reporting procedures and frequencies must ensure compliance with §§ 264.601, 264.15, 264.33, 264.75, 264.76, 264.77, and 264.101 as well as meet any additional requirements needed to protect human health and the environment as specified in the permit.

§ 264.603 Post-closure care.

A miscellaneous unit that is a disposal unit must be maintained in a manner that complies with § 264.601 during the post-closure care period. In addition, if a treatment or storage unit has contaminated soils or ground water that cannot be completely removed or decontaminated during closure, then that unit must also meet the requirements of § 264.601 during post-closure care. The post-closure plan under § 264.118 must specify the procedures that will be used to satisfy this requirement.

Subparts Y—Z [Reserved]

Subpart AA—Air Emission Standards for Process Vents

SOURCE: 55 FR 25494, June 21, 1990, unless otherwise noted.

EFFECTIVE DATE NOTE: At 55 FR 25494, June 21, 1990, §§ 264.1030 through 264.1049 Subpart AA) were added, effective December 21, 1990.

§ 264.1030 Applicability.

(a) The regulations in this subpart apply to owners and operators of facilities that treat, store, or dispose of hazardous wastes (except as provided in § 2641).

(b) Except for §§ 264.1034(d) and 264.1035(e), this subpart applies to process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations that manage hazardous wastes with organic concentrations of at least 10-ppmw, if these operations are conducted in:

(1) Units that are subject to the permitting requirements of part 270, or

(2) Hazardous waste recycling units that are located on hazardous waste management facilities otherwise subject to the permitting requirements of part 270.

(c) If the owner or operator of process vents subject to the requirements of §§ 264.1032 through 264.1036 has received a permit under section 3005 of RCRA prior to December 21, 1990 the requirements of §§ 264.1032 through 264.1036 must be incorporated when the permit is reissued under § 124.15 or reviewed under § 270.50.

[NOTE: The requirements of §§ 264.1032 through 264.1036 apply to process vents on hazardous waste recycling units previously exempt under paragraph 261.6(c)(1). Other exemptions under §§ 261.4, 262.34, and 264.1(g) are not affected by these requirements.]

§ 264.1031 Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Act and parts 260-266.

Air stripping operation is a desorption operation employed to transfer one or more volatile components from a liquid mixture into a gas (air) either with or without the application of heat to the liquid. Packed towers, spray towers, and bubble-cap, sieve, or valve-type plate towers are among the process configurations used for contacting the air and a liquid.

Bottoms receiver means a container or tank used to receive and collect the heavier bottoms fractions of the distillation feed stream that remain in the liquid phase.

Closed-vent system means a system that is not open to the atmosphere and that is composed of piping, connections, and, if necessary, flow-inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device.

Condenser means a heat-transfer device that reduces a thermodynamic fluid from its vapor phase to its liquid phase.

Connector means flanged, screwed, welded, or other joined fittings used to connect two pipelines or a pipeline and a piece of equipment. For the purposes of reporting and recordkeeping, connector means flanged fittings that are not covered by insulation or other materials that prevent location of the fittings.

Continuous recorder means a data-recording device recording an instantaneous data value at least once every 15 minutes.

Control device means an enclosed combustion device, vapor recovery system, or flare. Any device the primary function of which is the recovery or capture of solvents or other organics for use, reuse, or sale (e.g., a primary condenser on a solvent recovery unit) is not a control device.

Control device shutdown means the cessation of operation of a control device for any purpose.

Distillate receiver means a container or tank used to receive and collect liquid material (condensed) from the overhead condenser of a distillation unit and from which the condensed liquid is pumped to larger storage tanks or other process units.

Distillation operation means an operation, either batch or continuous, separating one or more feed stream(s) into two or more exit streams, each exit stream having component concentrations different from those in the feed stream(s). The separation is achieved by the redistribution of the components between the liquid and vapor phase as they approach equilibrium within the distillation unit.

Double block and bleed system means two block valves connected in series with a bleed valve or line that can vent the line between the two block valves.

Equipment means each valve, pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, or flange, and any control devices or systems required by this subpart.

Flame zone means the portion of the combustion chamber in a boiler occupied by the flame envelope.

Flow indicator means a device that indicates whether gas flow is present in a vent stream.

First attempt at repair means to take rapid action for the purpose of stopping or reducing leakage of organic material to the atmosphere using best practices.

Fractionation operation means a distillation operation or method used to separate a mixture of several volatile components of different boiling points in successive stages, each stage removing from the mixture some proportion of one of the components.

Hazardous waste management unit shutdown means a work practice or operational procedure that stops operation of a hazardous waste management unit or part of a hazardous waste management unit. An unscheduled work practice or operational procedure that stops operation of a hazardous waste management unit or part of a hazardous waste management unit for less than 24 hours is not a hazardous waste management unit shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping operation are not hazardous waste management unit shutdowns.

Hot well means a container for collecting condensate as in a steam condenser serving a vacuum-jet or steam-jet ejector.

In gas/vapor service means that the piece of equipment contains or contacts a hazardous waste stream that is in the gaseous state at operating conditions.

In heavy liquid service means that the piece of equipment is not in gas/vapor service or in light liquid service.

In light liquid service means that the piece of equipment contains or contacts a waste stream where the vapor pressure of one or more of the components in the stream is greater than 0.3 kilopascals (kPa) at 20 °C, the total concentration of the pure components having a vapor pressure greater than 0.3 kPa at 20 °C is equal to or greater than 20 percent by weight, and the fluid is a liquid at operating conditions.

In situ sampling systems means nonextractive samplers or in-line samplers.

In vacuum service means that equipment is operating at an internal pressure that is at least 5 kPa below ambient pressure.

Malfunction means any sudden failure of a control device or a hazardous waste management unit or failure of a hazardous waste management unit to operate in a normal or usual manner, so that organic emissions are increased.

Open-ended valve or line means any valve, except pressure relief valves, having one side of the valve seat in contact with process fluid and one side open to the atmosphere, either directly or through open piping.

Pressure release means the emission of materials resulting from the system pressure being greater than the set pressure of the pressure relief device.

Process heater means a device that transfers heat liberated by burning fuel to fluids contained in tubes, including all fluids except water that are heated to produce steam.

Process vent means any open-ended pipe or stack that is vented to the atmosphere either directly, through a vacuum-producing system, or through a tank (e.g., distillate receiver, condenser, bottoms receiver, surge control tank, separator tank, or hot well) associated with hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations.

Repaired means that equipment is adjusted, or otherwise altered, to eliminate a leak.

Sensor means a device that measures a physical quantity or the change in a physical quantity, such as temperature, pressure, flow rate, pH, or liquid level.

Separator tank means a device used for separation of two immiscible liquids.

Solvent extraction operation means an operation or method of separation in which a solid or solution is contacted with a liquid solvent (the two being mutually insoluble) to preferentially dissolve and transfer one or more components into the solvent.

Startup means the setting in operation of a hazardous waste management unit or control device for any purpose.

Steam stripping operation means a distillation operation in which vaporization of the volatile constituents of a liquid mixture takes place by the introduction of steam directly into the charge.

Surge control tank means a large-sized pipe or storage reservoir sufficient to contain the surging liquid discharge of the process tank to which it is connected.

Thin-film evaporation operation means a distillation operation that employs a heating surface consisting of a large diameter tube that may be either straight or tapered, horizontal or vertical. Liquid is spread on the tube wall by a rotating assembly of blades that maintain a close clearance from the wall or actually ride on the film of liquid on the wall.

Vapor incinerator means any enclosed combustion device that is used for destroying organic compounds and does not extract energy in the form of steam or process heat.

Vented means discharged through an opening, typically an open-ended pipe or stack, allowing the passage of a stream of liquids, gases, or fumes into the atmosphere. The passage of liquids, gases, or fumes is caused by mechanical means such as compressors or vacuum-producing systems or by process-related means such as evaporation produced by heating and not caused by tank loading and unloading (working losses) or by natural means such as diurnal temperature changes.

§ 264.1032 Standards: Process vents.

(a) The owner or operator of a facility with process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations managing hazardous wastes with organic concentrations of at least 10 ppmw shall either:

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(1) Reduce total organic emissions from all affected process vents at the facility below 1.4 kg/h (3 lb/h) and 2.8 Mg/yr (3.1 tons/yr), or

(2) Reduce, by use of a control device, total organic emissions from all affected process vents at the facility by 95 weight percent.

(b) If the owner or operator installs a closed-vent system and control device to comply with the provisions of paragraph (a) of this section the closed-vent system and control device must meet the requirements of § 264.1033.

(c) Determinations of vent emissions and emission reductions or total organic compound concentrations achieved by add-on control devices may be based on engineering calculations or performance tests. If performance tests are used to determine vent emissions, emission reductions, or total organic compound concentrations achieved by add-on control devices, the performance tests must conform with the requirements of § 264.1034(c).

(d) When an owner or operator and the Regional Administrator do not agree on determinations of vent emissions and/or emission reductions or total organic compound concentrations achieved by add-on control devices based on engineering calculations, the procedures in § 264.1034(c) shall be used to resolve the disagreement.

§ 264.1033 Standards: Closed-vent systems and control devices.

(a)(1) Owners or operators of closed-vent systems and control devices used to comply with provisions of this part shall comply with the provisions of this section.

(2) The owner or operator of an existing facility who cannot install a closed-vent system and control device to comply with the provisions of this subpart on the effective date that the facility becomes subject to the provisions of this subpart must prepare an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The controls must be installed as soon as possible, but the implementation schedule may allow up to 18 months after the effective date that the facility becomes subject to this subpart for installation and startup. All units that begin operation after December 21, 1990, must comply with the rules immediately (i.e., must have control devices installed and operating on startup of the affected unit); the 2-year implementation schedule does not apply to these units.

(b) A control device involving vapor recovery (e.g., a condenser or adsorber) shall be designed and operated to recover the organic vapors vented to it with an efficiency of 95 weight percent or greater unless the total organic emission limits of § 264.1032(a)(1) for all affected process vents can be attained at an efficiency less than 95 weight percent.

(c) An enclosed combustion device (e.g., a vapor incinerator, boiler, or process heater) shall be designed and operated to reduce the organic emissions vented to it by 95 weight percent or greater; to achieve a total organic compound concentration of 20 ppmv, expressed as the sum of the actual compounds, not carbon equivalents, on a dry basis corrected to 3 percent oxygen; or to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760 °C. If a boiler or process heater is used as the control device, then the vent stream shall be introduced into the flame zone of the boiler or process heater.

(d)(1) A flare shall be designed for and operated with no visible emissions as determined by the methods specified in paragraph (e)(1) of this section except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

(2) A flare shall be operated with a flame present at all times, as determined by the methods specified in paragraph (f)(2)(iii) of this section.

(3) A flare shall be used only if the net heating value of the gas being combusted is 11.2 MJ/scm (300 Btu/scf) or greater if the flare is steam-assisted or air-assisted; or if the net heating value of the gas being combusted is 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in paragraph (e)(2) of this section.

(4)(i) A steam-assisted or nonassisted flare shall be designed for and operated with an exit velocity, as determined by the methods specified in paragraph (e)(3) of this section, less than 18.3 m/s (60 ft/s), except as provided in paragraphs (d)(4) (ii) and (iii) of this section.

(ii) A steam-assisted or nonassisted flare designed for and operated with an exit velocity, as determined by the methods specified in paragraph (e)(3) of this section, equal to or greater than 18.3 m/s (60 ft/s) but less than 122 m/s (400 ft/s) is allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

(iii) A steam-assisted or nonassisted flare designed for and operated with an exit velocity, as determined by the methods specified in paragraph (e)(3) of this section, less than the velocity, V_{max}, as determined by the method specified in paragraph (e)(4) of this section and less than 122 m/s (400 ft/s) is allowed.

(5) An air-assisted flare shall be designed and operated with an exit velocity less than the velocity, V_{max}, as determined by the method specified in paragraph (e)(5) of this section.

(6) A flare used to comply with this section shall be steam-assisted, air-assisted, or nonassisted.

(e)(1) Reference Method 22 in 40 CFR part 60 shall be used to determine the compliance of a flare with the visible emission provisions of this subpart. The observation period is 2 hours and shall be used according to Method 22.

(2) The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K\left[\sum_{i=1}^{n} C_i H_i\right]$$

where:

H_T = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to 1 mol is 20 °C;

K = Constant, 1.74×10^{-7} (1/ppm) (g mol/scm) (MJ/kcal) where standard temperature for (g mol/scm) is 20 °C;

C_i = Concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 in 40 CFR part 60 and measured for hydrogen and carbon monoxide by ASTM D 1946-82 (incorporated by reference as specified in § 260.11); and

H_i = Net heat of combustion of sample component i, kcal/9 mol at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D 2382-83 (incorporated by reference as specified in § 260.11) if published values are not available or cannot be calculated.

(3) The actual exit velocity of a flare shall be determined by dividing the volumetric flow rate (in units of standard temperature and pressure), as determined by Reference Methods 2, 2A, 2C, or 2D in 40 CFR part 60 as appropriate, by the unobstructed (free) cross-sectional area of the flare tip.

(4) The maximum allowed velocity in m/s, V_{max}, for a flare complying with paragraph (d)(4)(iii) of this section shall be determined by the following equation:

$$\mathrm{Log}_{10}(V_{max}) = (H_T + 28.8)/31.7$$

where:

28.8 = Constant,
31.7 = Constant,
H_T = The net heating value as determined in paragraph (e)(2) of this section.

(5) The maximum allowed velocity in m/s, V_{max}, for an air-assisted flare shall be determined by the following equation:

$$V_{max} = 8.706 + 0.7084\,(H_T)$$

where:

8.706 = Constant,
0.7084 = Constant,
H_T = The net heating value as determined in paragraph (e)(2) of this section.

(f) The owner or operator shall monitor and inspect each control device required to comply with this section to ensure proper operation and maintenance of the control device by implementing the following requirements:

(1) Install, calibrate, maintain, and operate according to the manufacturer's specifications a flow indicator that provides a record of vent stream flow from each affected process vent to the control device at least once every hour. The flow indicator sensor shall

be installed in the vent stream at the nearest feasible point to the control device inlet but before the point at which the vent streams are combined.

(2) Install, calibrate, maintain, and operate according to the manufacturer's specifications a device to continuously monitor control device operation as specified below:

(i) For a thermal vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ±1 percent of the temperature being monitored in °C or ±0.5 °C, whichever is greater. The temperature sensor shall be installed at a location in the combustion chamber downstream of the combustion zone.

(ii) For a catalytic vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature at two locations and have an accuracy of ±1 percent of the temperature being monitored in °C or ±0.5 °C, whichever is greater. One temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed inlet and a second temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed outlet.

(iii) For a flare, a heat sensing monitoring device equipped with a continuous recorder that indicates the continuous ignition of the pilot flame.

(iv) For a boiler or process heater having a design heat input capacity less than 44 MW, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ±1 percent of the temperature being monitored in °C or ±0.5 °C, whichever is greater. The temperature sensor shall be installed at a location in the furnace downstream of the combustion zone.

(v) For a boiler or process heater having a design heat input capacity greater than or equal to 44 MW, a monitoring device equipped with a continuous recorder to measure a parameter(s) that indicates good combustion operating practices are being used.

(vi) For a condenser, either:

(A) A monitoring device equi with a continuous recorder to mea the concentration level of the org compounds in the exhaust vent str from the condenser, or

(B) A temperature monitoring de equipped with a continuous recor The device shall be capable of m toring temperature at two locat and have an accuracy of ±1 percer the temperature being monitored or ±0.5 °C, whichever is greater. temperature sensor shall be insta at a location in the exhaust stream from the condenser, ar second temperature sensor shall b stalled at a location in the coo fluid exiting the condenser.

(vii) For a carbon adsorption sy that regenerates the carbon bec rectly in the control device such fixed-bed carbon adsorber, either:

(A) A monitoring device equi with a continuous recorder to mea the concentration level of the org compounds in the exhaust vent str from the carbon bed, or

(B) A monitoring device equi with a continuous recorder to mea a parameter that indicates the ca bed is regenerated on a regular, pr termined time cycle.

(3) Inspect the readings from monitoring device required by graphs (1) and (2) of this sectio least once each operating day to c control device operation and, if n sary, immediately implement the rective measures necessary to en the control device operates in con ance with the requirements of this tion.

(g) An owner or operator usi carbon adsorption system such fixed-bed carbon adsorber that re erates the carbon bed directly o in the control device shall replace existing carbon in the control d with fresh carbon at a regular, p termined time interval that is longer than the carbon service lif tablished as a requirement § 264.1035(b)(4)(iii)(F).

(h) An owner or operator usi carbon adsorption system such carbon canister that does not reg ate the carbon bed directly onsi the control device shall replace th isting carbon in the control d with fresh carbon on a regular basis by using one of the following procedures:

(1) Monitor the concentration level of the organic compounds in the exhaust vent stream from the carbon adsorption system on a regular schedule, and replace the existing carbon with fresh carbon immediately when carbon breakthrough is indicated. The monitoring frequency shall be daily or at an interval no greater than 20 percent of the time required to consume the total carbon working capacity established as a requirement of § 264.1035(b)(4)(iii)(G), whichever is longer.

(2) Replace the existing carbon with fresh carbon at a regular, predetermined time interval that is less than the design carbon replacement interval established as a requirement of § 264.1035(b)(4)(iii)(G).

(i) An alternative operational or process parameter may be monitored if it can be demonstrated that another parameter will ensure that the control device is operated in conformance with these standards and the control device's design specifications.

(j) An owner or operator of an affected facility seeking to comply with the provisions of this part by using a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system is required to develop documentation including sufficient information to describe the control device operation and identify the process parameter or parameters that indicate proper operation and maintenance of the control device.

(k)(1) Closed-vent systems shall be designed for and operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background and by visual inspections, as determined by the methods specified as § 264.1034(b).

(2) Closed-vent systems shall be monitored to determine compliance with this section during the initial leak detection monitoring, which shall be conducted by the date that the facility becomes subject to the provisions of this section, annually, and at other times as requested by the Regional Administrator.

(3) Detectable emissions, as indicated by an instrument reading greater than 500 ppm and visual inspections, shall be controlled as soon as practicable, but not later than 15 calendar days after the emission is detected.

(4) A first attempt at repair shall be made no later than 5 calendar days after the emission is detected.

(l) Closed-vent systems and control devices used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.

§ 264.1034 Test methods and procedures.

(a) Each owner or operator subject to the provisions of this subpart shall comply with the test methods and procedures requirements provided in this section.

(b) When a closed-vent system is tested for compliance with no detectable emissions, as required in § 264.1033(k), the test shall comply with the following requirements:

(1) Monitoring shall comply with Reference Method 21 in 40 CFR part 60.

(2) The detection instrument shall meet the performance criteria of Reference Method 21.

(3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Reference Method 21.

(4) Calibration gases shall be:

(i) Zero air (less than 10 ppm of hydrocarbon in air).

(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

(5) The background level shall be determined as set forth in Reference Method 21.

(6) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(7) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(c) Performance tests to determine compliance with § 264.1032(a) and with the total organic compound concentration limit of § 264.1033(c) shall comply with the following:

(1) Performance tests to determine total organic compound concentrations and mass flow rates entering and exiting control devices shall be conducted and data reduced in accordance with the following reference methods and calculation procedures:

(i) Method 2 in 40 CFR part 60 for velocity and volumetric flow rate.

(ii) Method 18 in 40 CFR part 60 for organic content.

(iii) Each performance test sl
consist of three separate runs; e
run conducted for at least 1 h
under the conditions that exist w
the hazardous waste management u
is operating at the highest load or
pacity level reasonably expected
occur. For the purpose of determin
total organic compound concen
tions and mass flow rates, the aver
of results of all runs shall apply. T
average shall be computed on a ti
weighted basis.

(iv) Total organic mass flow r
shall be determined by the follow
equation:

$$E_h = Q_{2sd} \left\{ \sum_{i=1}^{n} C_i MW_i \right\} [0.0416] [10^{-6}]$$

where:

E_h = Total organic mass flow rate, kg/h;

Q_{2sd} = Volumetric flow rate of gases entering or exiting control device, as determined by Method 2, dscm/h;

n = Number of organic compounds in the vent gas;

C_i = Organic concentration in ppm, dry basis, of compound i in the vent gas, as determined by Method 18;

MW_i = Molecular weight of organic compound i in the vent gas, kg/kg-mol;

0.0416 = Conversion factor for molar volume, kg-mol/m^3 (@ 293 K and 760 mm Hg);

10^{-6} = Conversion from ppm, ppm^{-1}.

(v) The annual total organic emission rate shall be determined by the following equation:

$E_A = (E_h)(H)$

where:

E_A = Total organic mass emission rate, kg/y;

E_h = Total organic mass flow rate for the process vent, kg/h;

H = Total annual hours of operations for the affected unit, h.

(vi) Total organic emissions from all affected process vents at the facility shall be determined by summing the hourly total organic mass emission rates (E_h as determined in paragraph (c)(1)(iv) of this section) and by summing the annual total organic mass emission rates (E_A, as determined in paragraph (c)(1)(v) of this section) for all affected process vents at the facility.

(2) The owner or operator sl
record such process information
may be necessary to determine
conditions of the performance te
Operations during periods of start
shutdown, and malfunction shall
constitute representative conditi
for the purpose of a performance t

(3) The owner or operator of an
fected facility shall provide, or ca
to be provided, performance testing
cilities as follows:

(i) Sampling ports adequate for
test methods specified in paragr
(c)(1) of this section.

(ii) Safe sampling platform(s).

(iii) Safe access to samp
platform(s).

(iv) Utilities for sampling and tes
equipment.

(4) For the purpose of making c
pliance determinations, the ti
weighted average of the results of
three runs shall apply. In the ev
that a sample is accidentally los
conditions occur in which one of
three runs must be discontinued
cause of forced shutdown, failure
an irreplaceable portion of the sam
train, extreme meteorological co
tions, or other circumstances bey
the owner or operator's control, c
pliance may, upon the Regional
ministrator's approval, be determi

using the average of the results of the two other runs.

(d) To show that a process vent associated with a hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation is not subject to the requirements of this subpart, the owner or operator must make an initial determination that the time-weighted, annual average total organic concentration of the waste managed by the waste management unit is less than 10 ppmw using one of the following two methods:

(1) Direct measurement of the organic concentration of the waste using the following procedures:

(i) The owner or operator must take a minimum of four grab samples of waste for each waste stream managed in the affected unit under process conditions expected to cause the maximum waste organic concentration.

(ii) For waste generated onsite, the grab samples must be collected at a point before the waste is exposed to the atmosphere such as in an enclosed pipe or other closed system that is used to transfer the waste after generation to the first affected distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation. For waste generated offsite, the grab samples must be collected at the inlet to the first waste management unit that receives the waste provided the waste has been transferred to the facility in a closed system such as a tank truck and the waste is not diluted or mixed with other waste.

(iii) Each sample shall be analyzed and the total organic concentration of the sample shall be computed using Method 9060 or 8240 of SW-846 (incorporated by reference under § 260.11).

(iv) The arithmetic mean of the results of the analyses of the four samples shall apply for each waste stream managed in the unit in determining the time-weighted, annual average total organic concentration of the waste. The time-weighted average is to be calculated using the annual quantity of each waste stream processed and the mean organic concentration of each waste stream managed in the unit.

(2) Using knowledge of the waste to determine that its total organic concentration is less than 10 ppmw. Documentation of the waste determination is required. Examples of documentation that shall be used to support a determination under this provision include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to generate a waste stream having a total organic content less than 10 ppmw, or prior speciation analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.

(e) The determination that distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations manage hazardous wastes with time-weighted, annual average total organic concentrations less than 10 ppmw shall be made as follows:

(1) By the effective date that the facility becomes subject to the provisions of this subpart or by the date when the waste is first managed in a waste management unit, whichever is later, and

(2) For continuously generated waste, annually, or

(3) Whenever there is a change in the waste being managed or a change in the process that generates or treats the waste.

(f) When an owner or operator and the Regional Administrator do not agree on whether a distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation manages a hazardous waste with organic concentrations of at least 10 ppmw based on knowledge of the waste, the procedures in Method 8240 may be used to resolve the dispute.

§ 264.1035 Recordkeeping requirements.

(a)(1) Each owner or operator subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section.

(2) An owner or operator of more than one hazardous waste management unit subject to the provisions of this subpart may comply with the recordkeeping requirements for these hazardous waste management units in one recordkeeping system if the system identifies each record by each hazardous waste management unit.

(b) Owners and operators must record the following information in the facility operating record:

(1) For facilities that comply with the provisions of § 264.1033(a)(2), an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The schedule must also include a rationale of why the installation cannot be completed at an earlier date. The implementation schedule must be in the facility operating record by the effective date that the facility becomes subject to the provisions of this subpart.

(2) Up-to-date documentation of compliance with the process vent standards in § 264.1032, including:

(i) Information and data identifying all affected process vents, annual throughput and operating hours of each affected unit, estimated emission rates for each affected vent and for the overall facility (i.e., the total emissions for all affected vents at the facility), and the approximate location within the facility of each affected unit (e.g., identify the hazardous waste management units on a facility plot plan).

(ii) Information and data supporting determinations of vent emissions and emission reductions achieved by add-on control devices based on engineering calculations or source tests. For the purpose of determining compliance, determinations of vent emissions and emission reductions must be made using operating parameter values (e.g., temperatures, flow rates, or vent stream organic compounds and concentrations) that represent the conditions that result in maximum organic emissions, such as when the waste management unit is operating at the highest load or capacity level reasonably expected to occur. If the owner or operator takes any action (e.g., m ing a waste of different compositi increasing operating hours of aff waste management units) that w result in an increase in total or emissions from affected process at the facility, then a new deter tion is required.

(3) Where an owner or ope chooses to use test data to deter the organic removal efficiency or organic compound concentr achieved by the control device, a formance test plan. The test plan include:

(i) A description of how it is d mined that the planned test is goi be conducted when the hazar waste management unit is operati the highest load or capacity leve sonably expected to occur. This include the estimated or design rate and organic content of each stream and define the acceptable ating ranges of key process and trol device parameters during the program.

(ii) A detailed engineering de tion of the closed-vent system and trol device including:

(A) Manufacturer's name and number of control device.

(B) Type of control device.

(C) Dimensions of the control d

(D) Capacity.

(E) Construction materials.

(iii) A detailed description of pling and monitoring procedure cluding sampling and monitoring tions in the system, the equipme be used, sampling and monitorin quency, and planned analytical p dures for sample analysis.

(4) Documentation of compl with § 264.1033 shall include the lowing information:

(i) A list of all information ences and sources used in prep the documentation.

(ii) Records including the dat each compliance test require § 264.1033(k).

(iii) If engineering calculation used, a design analysis, specifica drawings, schematics, and piping instrumentation diagrams base the appropriate sections of " Course 415: Control of Gaseous sions" (incorporated by referen specified in § 260.11) or other engineering texts acceptable to the Regional Administrator that present basic control device design information. Documentation provided by the control device manufacturer or vendor that describes the control device design in accordance with paragraphs (b)(4)(iii)(A) through (b)(4)(iii)(G) of this section may be used to comply with this requirement. The design analysis shall address the vent stream characteristics and control device operation parameters as specified below.

(A) For a thermal vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperature in the combustion zone and the combustion zone residence time.

(B) For a catalytic vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperatures across the catalyst bed inlet and outlet.

(C) For a boiler or process heater, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average flame zone temperatures, combustion zone residence time, and description of method and location where the vent stream is introduced into the combustion zone.

(D) For a flare, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also consider the requirements specified in § 264.1033(d).

(E) For a condenser, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic compound concentration level, design average temperature of the condenser exhaust vent stream, and design average temperatures of the coolant fluid at the condenser inlet and outlet.

(F) For a carbon adsorption system such as a fixed-bed adsorber that regenerates the carbon bed directly onsite in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design exhaust vent stream organic compound concentration level, number and capacity of carbon beds, type and working capacity of activated carbon used for carbon beds, design total steam flow over the period of each complete carbon bed regeneration cycle, duration of the carbon bed steaming and cooling/drying cycles, design carbon bed temperature after regeneration, design carbon bed regeneration time, and design service life of carbon.

(G) For a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly onsite in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic concentration level, capacity of carbon bed, type and working capacity of activated carbon used for carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule.

(iv) A statement signed and dated by the owner or operator certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is or would be operating at the highest load or capacity level reasonably expected to occur.

(v) A statement signed and dated by the owner or operator certifying that the control device is designed to operate at an efficiency of 95 percent or greater unless the total organic concentration limit of § 264.1032(a) is achieved at an efficiency less than 95 weight percent or the total organic emission limits of § 264.1032(a) for affected process vents at the facility can be attained by a control device involving vapor recovery at an efficiency less than 95 weight percent. A statement provided by the control device manufacturer or vendor certifying that the control equipment meets the design specifications may be used to comply with this requirement.

(vi) If performance tests are used to demonstrate compliance, all test results.

(c) Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required to comply with the provisions of this part shall be recorded and kept up-to-date in the facility operating record. The information shall include:

(1) Description and date of each modification that is made to the closed-vent system or control device design.

(2) Identification of operating parameter, description of monitoring device, and diagram of monitoring sensor location or locations used to comply with § 264.1033 (f)(1) and (f)(2).

(3) Monitoring, operating, and inspection information required by paragraphs (f) through (k) of § 264.1033.

(4) Date, time, and duration of each period that occurs while the control device is operating when any monitored parameter exceeds the value established in the control device design analysis as specified below:

(i) For a thermal vapor incinerator designed to operate with a minimum residence time of 0.50 second at a minimum temperature of 760 °C, period when the combustion temperature is below 760 °C.

(ii) For a thermal vapor incinerator designed to operate with an organic emission reduction efficiency of 95 weight percent or greater period when the combustion zone temperature is more than 28 °C below the design average combustion zone temperature established as a requirement of paragraph (b)(4)(iii)(A) of this section.

(iii) For a catalytic vapor incinerator, period when:

(A) Temperature of the vent stream at the catalyst bed inlet is more than 28 °C below the average temperature of the inlet vent stream established as a requirement of paragraph (b)(4)(iii)(B) of this section, or

(B) Temperature difference ac the catalyst bed is less than 80 per of the design average temperature ference established as a requiren of paragraph (b)(4)(iii)(B) of this tion.

(iv) For a boiler or process he period when:

(A) Flame zone temperature is r than 28 °C below the design ave flame zone temperature establishe a requirement of parag (b)(4)(iii)(C) of this section, or

(B) Position changes where the stream is introduced to the com tion zone from the location e lished as a requirement of parag (b)(4)(iii)(C) of this section.

(v) For a flare, period when the flame is not ignited.

(vi) For a condenser that com with § 264.1033(f)(2)(vi)(A), p when the organic compound con tration level or readings of org compounds in the exhaust vent str from the condenser are more tha percent greater than the design o organic compound concentration established as a requirement of p graph (b)(4)(iii)(E) of this section.

(vii) For a condenser that com with § 264.1033(f)(2)(vi)(B), p when:

(A) Temperature of the exh vent stream from the condens more than 6 °C above the design age exhaust vent stream tempera established as a requirement of p graph (b)(4)(iii)(E) of this section;

(B) Temperature of the coolant exiting the condenser is more th °C above the design average co fluid temperature at the conde outlet established as a requireme paragraph (b)(4)(iii)(E) of this sec

(viii) For a carbon adsorption sy such as a fixed-bed carbon adso that regenerates the carbon be rectly onsite in the control device complies with § 264.1033(f)(2)(vi period when the organic compo concentration level or readings o ganic compounds in the exhaust stream from the carbon bed are than 20 percent greater than design exhaust vent stream or compound concentration level e lished as a requirement of parag (b)(4)(iii)(F) of this section.

(ix) For a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device and complies with § 264.1033(f)(2)(vii)(B), period when the vent stream continues to flow through the control device beyond the predetermined carbon bed regeneration time established as a requirement of paragraph (b)(4)(iii)(F) of this section.

(5) Explanation for each period recorded under paragraph (4) of the cause for control device operating parameter exceeding the design value and the measures implemented to correct the control device operation.

(6) For a carbon adsorption system operated subject to requirements specified in § 264.1033(g) or § 264.1033(h)(2), date when existing carbon in the control device is replaced with fresh carbon.

(7) For a carbon adsorption system operated subject to requirements specified in § 264.1033(h)(1), a log that records:

(i) Date and time when control device is monitored for carbon breakthrough and the monitoring device reading.

(ii) Date when existing carbon in the control device is replaced with fresh carbon.

(8) Date of each control device startup and shutdown.

(d) Records of the monitoring, operating, and inspection information required by paragraphs (c)(3)–(c)(8) of this section need be kept only 3 years.

(e) For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, the Regional Administrator will specify the appropriate recordkeeping requirements.

(f) Up-to-date information and data used to determine whether or not a process vent is subject to the requirements in § 264.1032 including supporting documentation as required by § 264.1034(d)(2) when application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used, shall be recorded in a log that is kept in the facility operating record.

(Approved by the Office of Management and Budget under control number 2060-0195)

§ 264.1036 Reporting requirements.

(a) A semiannual report shall be submitted by owners and operators subject to the requirements of this subpart to the Regional Administrator by dates specified by the Regional Administrator. The report shall include the following information:

(1) The Environmental Protection Agency identification number, name, and address of the facility.

(2) For each month during the semiannual reporting period, dates when the control device exceeded or operated outside of the design specifications as defined in § 264.1035(c)(4) and as indicated by the control device monitoring required by § 264.1033(f) and such exceedances were not corrected within 24 hours, or that a flare operated with visible emissions as defined in § 264.1033(d) and as determined by Method 22 monitoring, the duration and cause of each exceedance or visible emissions, and any corrective measures taken.

(b) If, during the semiannual reporting period, the control device does not exceed or operate outside of the design specifications as defined in § 264.1035(c)(4) for more than 24 hours or a flare does not operate with visible emissions as defined in § 264.1033(d), a report to the Regional Administrator is not required.

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§§ 264.1037—264.1049 [Reserved]

Subpart BB—Air Emission Standards for Equipment Leaks

SOURCE: 55 FR 25501, June 21, 1990, unless otherwise noted.

EFFECTIVE DATE NOTE: At 55 FR 25501, June 21, 1990, §§ 264.1050 through 264.1079 (Subpart BB) were added, effective December 21, 1990.

§ 264.1050 Applicability.

(a) The regulations in this subpart apply to owners and operators of facilities that treat, store, or dispose of hazardous wastes (except as provided in § 264.1).

(b) Except as provided in § 264.1064(k), this subpart applies to equipment that contains or contacts hazardous wastes with organic concentrations of at least 10 percent by weight that are managed in:

(1) Units that are subject to the permitting requirements of part 270, or

(2) Hazardous waste recycling units that are located on hazardous waste management facilities otherwise subject to the permitting requirements of part 270.

(c) If the owner or operator of equipment subject to the requirements of §§ 264.1052 through 264.1065 has received a permit under section 3005 of RCRA prior to December 21, 1990, the requirements of §§ 264.1052 through 264.1065 must be incorporated when the permit is reissued under § 124.15 or reviewed under § 270.50.

(d) Each piece of equipment to which this subpart applies shall be marked in such a manner that it can be distinguished readily from other pieces of equipment.

(e) Equipment that is in vacuum service is excluded from the requirements of § 264.1052 to § 264.1060 if it is identified as required in § 264.1064(g)(5).

[NOTE: The requirements of §§ 264.1052 through 264.1065 apply to equipment associated with hazardous waste recycling units previously exempt under § 261.6(c)(1). Other exemptions under §§ 261.4, 262.34, and 264.1(g) are not affected by these requirements.]

§ 264.1051 Definitions.

As used in this subpart, all terms shall have the meaning given them in § 264.1031, the Act, and parts 260-266.

§ 264.1052 Standards: Pumps in light liquid service.

(a)(1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in § 264.1063(b), except as provided in paragraphs (d), (e), and (f) of this section.

(2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indicatio liquids dripping from the pump s

(b)(1) If a instrument readi 10,000 ppm or greater is measu leak is detected.

(2) If there are indications of l dripping from the pump seal, a l detected.

(c)(1) When a leak is detect shall be repaired as soon as pra ble, but not later than 15 cal days after it is detected, except a vided in § 264.1059.

(2) A first attempt at repair tightening the packing gland) sh made no later than 5 calendar after each leak is detected.

(d) Each pump equipped with mechanical seal system that inclu barrier fluid system is exempt the requirements of paragraph this section, *provided* the followi quirements are met:

(1) Each dual mechanical system must be:

(i) Operated with the barrier fl a pressure that is at all times g than the pump stuffing box pre or

(ii) Equipped with a barrier flu gassing reservoir that is connect a closed-vent system to a c device that complies with the re ments of § 264.1060, or

(iii) Equipped with a system purges the barrier fluid into a h ous waste stream with no dete emissions to the atmosphere.

(2) The barrier fluid system not be a hazardous waste with o concentrations 10 percent or g by weight.

(3) Each barrier fluid system be equipped with a sensor tha detect failure of the seal system barrier fluid system, or both.

(4) Each pump must be check visual inspection, each calendar for indications of liquids dri from the pump seals.

(5)(i) Each sensor as describ paragraph (d)(3) of this section be checked daily or be equipped an audible alarm that must be ch monthly to ensure that it is fun ing properly.

(ii) The owner or operator mu termine, based on design con ations and operating experience, terion that indicates failure of the seal system, the barrier fluid system, or both.

(6)(i) If there are indications of liquids dripping from the pump seal or the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined in paragraph (d)(5)(ii) of this section, a leak is detected.

(ii) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 264.1059.

(iii) A first attempt at repair (e.g., relapping the seal) shall be made no later than 5 calendar days after each leak is detected.

(e) Any pump that is designated, as described in § 264.1064(g)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a), (c), and (d) of this section if the pump meets the following requirements:

(1) Must have no externally actuated shaft penetrating the pump housing.

(2) Must operate with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in § 264.1063(c).

(3) Must be tested for compliance with paragraph (e)(2) of this section initially upon designation, annually, and at other times as requested by the Regional Administrator.

(f) If any pump is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a control device that complies with the requirements of § 264.1060, it is exempt from the requirements of paragraphs (a) through (e) of this section.

§ 264.1053 Standards: Compressors.

(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of total organic emissions to the atmosphere, except as provided in paragraphs (h) and (i) of this section.

(b) Each compressor seal system as required in paragraph (a) of this section shall be:

(1) Operated with the barrier fluid at a pressure that is at all times greater than the compressor stuffing box pressure, or

(2) Equipped with a barrier fluid system that is connected by a closed-vent system to a control device that complies with the requirements of § 264.1060, or

(3) Equipped with a system that purges the barrier fluid into a hazardous waste stream with no detectable emissions to atmosphere.

(c) The barrier fluid must not be a hazardous waste with organic concentrations 10 percent or greater by weight.

(d) Each barrier fluid system as described in paragraphs (a) through (c) of this section shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

(e)(1) Each sensor as required in paragraph (d) of this section shall be checked daily or shall be equipped with an audible alarm that must be checked monthly to ensure that it is functioning properly unless the compressor is located within the boundary of an unmanned plant site, in which case the sensor must be checked daily.

(2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(f) If the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined under paragraph (e)(2) of this section, a leak is detected.

(g)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 264.1059.

(2) A first attempt at repair (e.g., tightening the packing gland) shall be made no later than 5 calendar days after each leak is detected.

(h) A compressor is exempt from the requirements of paragraphs (a) and (b) of this section if it is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal to a control device that complies with the requirements of § 264.1060, except as provided in paragraph (i) of this section.

(i) Any compressor that is designated, as described in § 264.1064(g)(2), for no detectable emissions as indicated by an instrument reading of less than 500 ppm above background is exempt from the requirements of paragraphs (a) through (h) of this section if the compressor:

(1) Is determined to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in § 264.1063(c).

(2) Is tested for compliance with paragraph (i)(1) of this section initially upon designation, annually, and at other times as requested by the Regional Administrator.

§ 264.1054 Standards: Pressure relief devices in gas/vapor service.

(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in § 264.1063(c).

(b)(1) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in § 264.1059.

(2) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in § 264.1063(c).

(c) Any pressure relief device that is equipped with a closed-vent system capable of capturing and transporting leakage from the pressure relief device to a control device as described in § 264.1060 is exempt from the requirements of paragraphs (a) and (b) of this section.

§ 264.1055 Standards: Sampling connecting systems.

(a) Each sampling connection system shall be equipped with a closed purge system or closed-vent system.

(b) Each closed-purge system or closed-vent system as required in paragraph (a) shall:

(1) Return the purged hazardous waste stream directly to the hazardous waste management process line with no detectable emissions to atmosphere, or

(2) Collect and recycle the purged hazardous waste stream with no detectable emissions to atmosphere, or

(3) Be designed and operated to capture and transport all the purged hazardous waste stream to a control device that complies with the requirements of § 264.1060.

(c) *In situ* sampling systems are exempt from the requirements of paragraphs (a) and (b) of this section.

§ 264.1056 Standards: Open-ended valves or lines.

(a)(1) Each open-ended valve or line shall be equipped with a cap, blind flange, plug, or a second valve.

(2) The cap, blind flange, plug, or second valve shall seal the open end at all times except during operations requiring hazardous waste stream flow through the open-ended valve or line.

(b) Each open-ended valve or line equipped with a second valve shall be operated in a manner such that the valve on the hazardous waste stream end is closed before the second valve is closed.

(c) When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but shall comply with paragraph (a) of this section at all other times.

§ 264.1057 Standards: Valves in gas/vapor service or in light liquid service.

(a) Each valve in gas/vapor or light liquid service shall be monitored monthly to detect leaks by the methods specified in § 264.1063(b) and shall omply with paragraphs (b) through e) of this section, except as provided n paragraphs (f), (g), and (h) of this ection, and §§ 264.1061 and 264.1062.

(b) If an instrument reading of 0,000 ppm or greater is measured, a eak is detected.

(c)(1) Any valve for which a leak is ot detected for two successive months nay be monitored the first month of very succeeding quarter, beginning vith the next quarter, until a leak is etected.

(2) If a leak is detected, the valve hall be monitored monthly until a eak is not detected for two successive onths.

(d)(1) When a leak is detected, it hall be repaired as soon as practicale, but no later than 15 calendar days fter the leak is detected, except as rovided in § 264.1059.

(2) A first attempt at repair shall be nade no later than 5 calendar days fter each leak is detected.

(e) First attempts at repair include, ut are not limited to, the following est practices where practicable:

(1) Tightening of bonnet bolts.

(2) Replacement of bonnet bolts.

(3) Tightening of packing gland uts.

(4) Injection of lubricant into lubriated packing.

(f) Any valve that is designated, as escribed in § 264.1064(g)(2), for no deectable emissions, as indicated by an nstrument reading of less than 500 pm above background, is exempt rom the requirements of paragraph a) of this section if the valve:

(1) Has no external actuating mechnism in contact with the hazardous aste stream.

(2) Is operated with emissions less han 500 ppm above background as deermined by the method specified in 264.1063(c).

(3) Is tested for compliance with aragraph (f)(2) of this section initialy upon designation, annually, and at ther times as requested by the Reional Administrator.

(g) Any valve that is designated, as escribed in § 264.1064(h)(1), as an nsafe-to-monitor valve is exempt rom the requirements of paragraph a) of this section if:

(1) The owner or operator of the valve determines that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this section.

(2) The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

(h) Any valve that is designated, as described in § 264.1064(h)(2), as a difficult-to-monitor valve is exempt from the requirements of paragraph (a) of this section if:

(1) The owner or operator of the valve determines that the valve cannot be monitored without elevating the monitoring personnel more than 2 meters above a support surface.

(2) The hazardous waste management unit within which the valve is located was in operation before June 21, 1990.

(3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

§ 264.1058 Standards: Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors.

(a) Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors shall be monitored within 5 days by the method specified in § 264.1063(b) if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 264.1059.

(2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) First attempts at repair include, but are not limited to, the best practices described under § 264.1057(e).

§ 264.1059 Standards: Delay of repair.

(a) Delay of repair of equipment for which leaks have been detected will be allowed if the repair is technically infeasible without a hazardous waste management unit shutdown. In such a case, repair of this equipment shall occur before the end of the next hazardous waste management unit shutdown.

(b) Delay of repair of equipment for which leaks have been detected will be allowed for equipment that is isolated from the hazardous waste management unit and that does not continue to contain or contact hazardous waste with organic concentrations at least 10 percent by weight.

(c) Delay of repair for valves will be allowed if:

(1) The owner or operator determines that emissions of purged material resulting from immediate repair are greater than the emissions likely to result from delay of repair.

(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with § 264.1060.

(d) Delay of repair for pumps will be allowed if:

(1) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system.

(2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

(e) Delay of repair beyond a hazardous waste management unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the hazardous waste management unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next hazardous waste management unit shutdown will not be allowed unless the next hazardous waste management unit shutdown occurs sooner than 6 months after the first hazardous waste management unit shutdown.

§ 264.1060 Standards: Closed-vent systems and control devices.

Owners or operators of closed-vent systems and control devices shall comply with the provisions of § 264.1033.

§ 264.1061 Alternative standards for valves in gas/vapor service or in light liquid service: percentage of valves allowed to leak.

(a) An owner or operator subject to the requirements of § 264.1057 may elect to have all valves within a hazardous waste management unit comply with an alternative standard that allows no greater than 2 percent of the valves to leak.

(b) The following requirements shall be met if an owner or operator decides to comply with the alternative standard of allowing 2 percent of valves to leak:

(1) An owner or operator must notify the Regional Administrator that the owner or operator has elected to comply with the requirements of this section.

(2) A performance test as specified in paragraph (c) of this section shall be conducted initially upon designation, annually, and at other times requested by the Regional Administrator.

(3) If a valve leak is detected, it shall be repaired in accordance with § 264.1057(d) and (e).

(c) Performance tests shall be conducted in the following manner:

(1) All valves subject to the requirements in § 264.1057 within the hazardous waste management unit shall be monitored within 1 week by the methods specified in § 264.1063(b).

(2) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(3) The leak percentage shall be determined by dividing the number of valves subject to the requirements in § 264.1057 for which leaks are detected by the total number of valves subject to the requirements in § 264.1057 within the hazardous waste management unit.

(d) If an owner or operator decides to comply with this section no longer, the owner or operator must notify the

Regional Administrator in writing hat the work practice standard de- cribed in § 264.1057(a) through (e) will be followed.

264.1062 Alternative standards for valves in gas/vapor service or in light liquid service: skip period leak detection and repair.

(a)(1) An owner or operator subject o the requirements of § 264.1057 may lect for all valves within a hazardous waste management unit to comply with one of the alternative work prac- ices specified in paragraphs (b) (2) nd (3) of this section.

(2) An owner or operator must otify the Regional Administrator efore implementing one of the alter- ative work practices.

(b)(1) An owner or operator shall omply with the requirements for alves, as described in § 264.1057, xcept as described in paragraphs b)(2) and (b)(3) of this section.

(2) After two consecutive quarterly eak detection periods with the per- entage of valves leaking equal to or ess than 2 percent, an owner or opera- or may begin to skip one of the quar- erly leak detection periods for the alves subject to the requirements in 264.1057.

(3) After five consecutive quarterly eak detection periods with the per- entage of valves leaking equal to or ess than 2 percent, an owner or opera- or may begin to skip three of the uarterly leak detection periods for he valves subject to the requirements n § 264.1057.

(4) If the percentage of valves leak- ng is greater than 2 percent, the wner or operator shall monitor monthly in compliance with the re- uirements in § 264.1057, but may gain elect to use this section after meeting the requirements of 264.1057(c)(1).

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264.1063 Test methods and procedures.

(a) Each owner or operator subject o the provisions of this subpart shall omply with the test methods and pro- edures requirements provided in this ection.

(b) Leak detection monitoring, as required in §§ 264.1052–264.1062, shall comply with the following requirements:

(1) Monitoring shall comply with Reference Method 21 in 40 CFR part 60.

(2) The detection instrument shall meet the performance criteria of Reference Method 21.

(3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Reference Method 21.

(4) Calibration gases shall be:

(i) Zero air (less than 10 ppm of hydrocarbon in air).

(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

(5) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(c) When equipment is tested for compliance with no detectable emissions, as required in §§ 264.1052(e), 264.1053(i), 264.1054, and 264.1057(f), the test shall comply with the following requirements:

(1) The requirements of paragraphs (b)(1) through (4) of this section shall apply.

(2) The background level shall be determined as set forth in Reference Method 21.

(3) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(4) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(d) In accordance with the waste analysis plan required by § 264.13(b), an owner or operator of a facility must determine, for each piece of equipment, whether the equipment contains or contacts a hazardous waste with organic concentration that equals or exceeds 10 percent by weight using the following:

(1) Methods described in ASTM Methods D 2267-88, E 169-87, E 168-

88, E 260-85 (incorporated by reference under § 260.11);

(2) Method 9060 or 8240 of SW-846 (incorporated by reference under § 260.11); or

(3) Application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced. Documentation of a waste determination by knowledge is required. Examples of documentation that shall be used to support a determination under this provision include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to have a total organic content less than 10 percent, or prior speciation analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.

(e) If an owner or operator determines that a piece of equipment contains or contacts a hazardous waste with organic concentrations at least 10 percent by weight, the determination can be revised only after following the procedures in paragraph (d)(1) or (d)(2) of this section.

(f) When an owner or operator and the Regional Administrator do not agree on whether a piece of equipment contains or contacts a hazardous waste with organic concentrations at least 10 percent by weight, the procedures in paragraph (d)(1) or (d)(2) of this section can be used to resolve the dispute.

(g) Samples used in determining the percent organic content shall be representative of the highest total organic content hazardous waste that is expected to be contained in or contact the equipment.

(h) To determine if pumps or valves are in light liquid service, the vapor pressures of constituents may be obtained from standard reference texts or may be determined by ASTM D-2879-86 (incorporated by reference under § 260.11).

(i) Performance tests to determine if a control device achieves 95 weight percent organic emission reduction shall comply with the procedures of § 264.1034(c)(1) through (c)(4).

§ 264.1064 Recordkeeping requirements.

(a)(1) Each owner or operator subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section.

(2) An owner or operator of more than one hazardous waste management unit subject to the provisions of this subpart may comply with the recordkeeping requirements for these hazardous waste management units in one recordkeeping system if the system identifies each record by each hazardous waste management unit.

(b) Owners and operators must record the following information in the facility operating record:

(1) For each piece of equipment to which Subpart BB of Part 264 applies:

(i) Equipment identification number and hazardous waste management unit identification.

(ii) Approximate locations within the facility (e.g., identify the hazardous waste management unit on a facility plot plan).

(iii) Type of equipment (e.g., a pump or pipeline valve).

(iv) Percent-by-weight total organics in the hazardous waste stream at the equipment.

(v) Hazardous waste state at the equipment (e.g., gas/vapor or liquid).

(vi) Method of compliance with the standard (e.g., "monthly leak detection and repair" or "equipped with dual mechanical seals").

(2) For facilities that comply with the provisions of § 264.1033(a)(2), an implementation schedule as specified in § 264.1033(a)(2).

(3) Where an owner or operator chooses to use test data to demonstrate the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan as specified in § 264.1035(b)(3).

(4) Documentation of compliance with § 264.1060, including the detailed design documentation or performance test results specified in § 264.1035(b)(4).

(c) When each leak is detected as specified in §§ 264.1052, 264.1053

264.1057, and 264.1058, the following requirements apply:

(1) A weatherproof and readily visible identification, marked with the equipment identification number, the date evidence of a potential leak was found in accordance with § 264.1058(a), and the date the leak was detected, shall be attached to the leaking equipment.

(2) The identification on equipment, except on a valve, may be removed after it has been repaired.

(3) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in §§ 264.1057(c) and no leak has been detected during those 2 months.

(d) When each leak is detected as specified in §§ 264.1052, 264.1053, 264.1057, and 264.1058, the following information shall be recorded in an inspection log and shall be kept in the facility operating record:

(1) The instrument and operator identification numbers and the equipment identification number.

(2) The date evidence of a potential leak was found in accordance with § 264.1058(a).

(3) The date the leak was detected and the dates of each attempt to repair the leak.

(4) Repair methods applied in each attempt to repair the leak.

(5) "Above 10,000" if the maximum instrument reading measured by the methods specified in § 264.1063(b) after each repair attempt is equal to or greater than 10,000 ppm.

(6) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(7) Documentation supporting the delay of repair of a valve in compliance with § 264.1059(c).

(8) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a hazardous waste management unit shutdown.

(9) The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days.

(10) The date of successful repair of the leak.

(e) Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required to comply with the provisions of § 264.1060 shall be recorded and kept up-to-date in the facility operating record as specified in § 264.1035(c). Design documentation is specified in § 264.1035 (c)(1) and (c)(2) and monitoring, operating, and inspection information in § 264.1035(c)(3)-(c)(8).

(f) For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, the Regional Administrator will specify the appropriate recordkeeping requirements.

(g) The following information pertaining to all equipment subject to the requirements in §§ 264.1052 through 264.1060 shall be recorded in a log that is kept in the facility operating record:

(1) A list of identification numbers for equipment (except welded fittings) subject to the requirements of this subpart.

(2)(i) A list of identification numbers for equipment that the owner or operator elects to designate for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, under the provisions of §§ 264.1052(e), 264.1053(i), and 264.1057(f).

(ii) The designation of this equipment as subject to the requirements of §§ 264.1052(e), 264.1053(i), or 264.1057(f) shall be signed by the owner or operator.

(3) A list of equipment identification numbers for pressure relief devices required to comply with § 264.1054(a).

(4)(i) The dates of each compliance test required in §§ 264.1052(e), 264.1053(i), 264.1054, and 264.1057(f).

(ii) The background level measured during each compliance test.

(iii) The maximum instrument reading measured at the equipment during each compliance test.

(5) A list of identification numbers for equipment in vacuum service.

(h) The following information pertaining to all valves subject to the requirements of § 264.1057 (g) and (h) shall be recorded in a log that is kept in the facility operating record:

(1) A list of identification numbers for valves that are designated as

unsafe to monitor, an explanation for each valve stating why the valve is unsafe to monitor, and the plan for monitoring each valve.

(2) A list of identification numbers for valves that are designated as difficult to monitor, an explanation for each valve stating why the valve is difficult to monitor, and the planned schedule for monitoring each valve.

(i) The following information shall be recorded in the facility operating record for valves complying with § 264.1062:

(1) A schedule of monitoring.

(2) The percent of valves found leaking during each monitoring period.

(j) The following information shall be recorded in a log that is kept in the facility operating record:

(1) Criteria required in § 264.1052(d)(5)(ii) and § 264.1053(e)(2) and an explanation of the design criteria.

(2) Any changes to these criteria and the reasons for the changes.

(k) The following information shall be recorded in a log that is kept in the facility operating record for use in determining exemptions as provided in the applicability section of this subpart and other specific subparts:

(1) An analysis determining the design capacity of the hazardous waste management unit.

(2) A statement listing the hazardous waste influent to and effluent from each hazardous waste management unit subject to the requirements in §§ 264.1052 through 264.1060 and an analysis determining whether these hazardous wastes are heavy liquids.

(3) An up-to-date analysis and the supporting information and data used to determine whether or not equipment is subject to the requirements in §§ 264.1052 through 264.1060. The record shall include supporting documentation as required by § 264.1063(d)(3) when application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used. If the owner or operator takes any action (e.g., changing the process that produced the waste) that could result in an increase in the total organic content of the waste contained in or contacted by equipment determined not to be subject to the requirements in §§ 264.1052 through 264.1060, then a new determination is required.

(l) Records of the equipment leak information required by paragraph (d) of this section and the operating information required by paragraph (e) of this section need be kept only 3 years.

(m) The owner or operator of any facility that is subject to this subpart and to regulations at 40 CFR part 60, subpart VV, or 40 CFR part 61, subpart V, may elect to determine compliance with this subpart by documentation either pursuant to § 264.1064 of this subpart, or pursuant to those provisions of 40 CFR part 60 or 61, to the extent that the documentation under the regulation at 40 CFR part 60 or part 61 duplicates the documentation required under this subpart. The documentation under the regulation at 40 CFR part 60 or part 61 shall be kept with or made readily available with the facility operating record.

(Approved by the Office of Management and Budget under control number 2060-0195)

§ 264.1065 Reporting requirements.

(a) A semiannual report shall be submitted by owners and operators subject to the requirements of this subpart to the Regional Administrator by dates specified by the Regional Administrator. The report shall include the following information:

(1) The Environmental Protection Agency identification number, name, and address of the facility.

(2) For each month during the semiannual reporting period:

(i) The equipment identification number of each valve for which a leak was not repaired as required in § 264.1057(d).

(ii) The equipment identification number of each pump for which a leak was not repaired as required in § 264.1052 (c) and (d)(6).

(iii) The equipment identification number of each compressor for which a leak was not repaired as required in § 264.1053(g).

(3) Dates of hazardous waste management unit shutdowns that occurred within the semiannual reporting period.

(4) For each month during the semiannual reporting period, dates when the control device installed as required by § 264.1052, 264.1053, 264.1054, or 264.1055 exceeded or operated outside of the design specifications as defined in § 264.1064(e) and as indicated by the control device monitoring required by § 264.1060 and was not corrected within 24 hours, the duration and cause of each exceedance, and any corrective measures taken.

(b) If, during the semiannual reporting period, leaks from valves, pumps, and compressors are repaired as required in §§ 264.1057 (d), 264.1052 (c) and (d)(6), and 264.1053 (g), respectively, and the control device does not exceed or operate outside of the design specifications as defined in § 264.1064(e) for more than 24 hours, a report to the Regional Administrator s not required.

Approved by the Office of Management and Budget under control number 2060-0195)

§§ 264.1066—264.1079 [Reserved]

APPENDIX I—RECORDKEEPING INSTRUCTIONS

The recordkeeping provisions of § 264.73 pecify that an owner or operator must keep written operating record at his facility. his appendix provides additional instruc- ions for keeping *portions* of the operating ecord. See § 264.73(b) for additional record- eeping requirements.

The following information must be recorded, as it becomes available, and maintained n the operating record until closure of the acility in the following manner:

Records of each hazardous waste received, reated, stored, or disposed of at the facility hich include the following:

(1) A description by its common name and he EPA Hazardous Waste Number(s) from art 261 of this chapter which apply to the aste. The waste description also must in- ude the waste's physical form, i.e., liquid, udge, solid, or contained gas. If the waste not listed in Part 261, Subpart D, of this hapter, the description also must include he process that produced it (for example, olid filter cake from production of ——, PA Hazardous Waste Number W051).

Each hazardous waste listed in Part 261, ubpart D, of this chapter, and each haz- dous waste characteristic defined in Part 1, Subpart C, of this chapter, has a four- git EPA Hazardous Waste Number assigned to it. This number must be used for recordkeeping and reporting purposes. Where a hazardous waste contains more than one listed hazardous waste, or where more than one hazardous waste characteristic applies to the waste, the waste description must include all applicable EPA Hazardous Waste Numbers.

(2) The estimated or manifest-reported weight, or volume and density, where applicable, in one of the units of measure specified in Table 1;

TABLE 1

Unit of measure	Symbol[1]	Density
Pounds	P	
Short tons (2000 lbs)	T	
Gallons (U.S.)	G	P/G
Cubic yards	Y	T/Y
Kilograms	K	
Tonnes (1000 kg)	M	
Liters	L	K/L
Cubic meters	C	M/C

[1] Single digit symbols are used here for data processing purposes.

(3) The method(s) (by handling code(s) as specified in Table 2) and date(s) of treatment, storage, or disposal.

TABLE 2—HANDLING CODES FOR TREATMENT, STORAGE, AND DISPOSAL METHODS

Enter the handling code(s) listed below that most closely represents the technique(s) used at the facility to treat, store, or dispose of each quantity of hazardous waste received.

1. Storage
   - S01 Container (barrel, drum, etc.)
   - S02 Tank
   - S03 Waste pile
   - S04 Surface impoundment
   - S05 Other (specify)
2. Treatment
   - (a) Thermal Treatment
   - T06 Liquid injection incinerator
   - T07 Rotary kiln incinerator
   - T08 Fluidized bed incinerator
   - T09 Multiple hearth incinerator
   - T10 Infrared furnace incinerator
   - T11 Molten salt destructor
   - T12 Pyrolysis
   - T13 Wet Air oxidation
   - T14 Calcination
   - T15 Microwave discharge
   - T16 Cement kiln
   - T17 Lime kiln
   - T18 Other (specify)
   - (b) Chemical Treatment
   - T19 Absorption mound
   - T20 Absorption field
   - T21 Chemical fixation
   - T22 Chemical oxidation
   - T23 Chemical precipitation

T24 Chemical reduction
T25 Chlorination
T26 Chlorinolysis
T27 Cyanide destruction
T28 Degradation
T29 Detoxification
T30 Ion exchange
T31 Neutralization
T32 Ozonation
T33 Photolysis
T34 Other (specify)
(c) Physical Treatment
(1) Separation of components
T35 Centrifugation
T36 Clarification
T37 Coagulation
T38 Decanting
T39 Encapsulation
T40 Filtration
T41 Flocculation
T42 Flotation
T43 Foaming
T44 Sedimentation
T45 Thickening
T46 Ultrafiltration
T47 Other (specify)
(2) Removal of Specific Components
T48 Absorption-molecular sieve
T49 Activated carbon
T50 Blending
T51 Catalysis
T52 Crystallization
T53 Dialysis
T54 Distillation
T55 Electrodialysis
T56 Electrolysis
T57 Evaporation
T58 High gradient magnetic separation
T59 Leaching
T60 Liquid ion exchange
T61 Liquid-liquid extraction
T62 Reverse osmosis
T63 Solvent recovery
T64 Stripping
T65 Sand filter
T66 Other (specify)
(d) Biological Treatment
T67 Activated sludge
T68 Aerobic lagoon
T69 Aerobic tank
T70 Anaerobic lagoon
T71 Composting
T72 Septic tank
T73 Spray irrigation
T74 Thickening filter
T75 Tricking filter
T76 Waste stabilization pond
T77 Other (specify)
T78-79 [Reserved]
3. Disposal
D80 Underground injection
D81 Landfill
D82 Land treatment
D83 Ocean disposal
D84 Surface impoundment (to be closed as a landfill)
D85 Other (specify)

APPENDICES II—III [RESERVED]

APPENDIX IV—COCHRAN'S APPROXIMATION TO THE BEHRENS-FISHER STUDENTS' T-TEST

Using all the available background data (n_b readings), calculate the background mean (X_b) and background variance (s_b^2). For the single monitoring well under investigation (n_m reading), calculate the monitoring mean (X_m) and monitoring variance (s_m^2).

For any set of data ($X_1, X_2, \ldots, X_n$) the mean is calculated by:

$$\bar{X} = \frac{X_1 + X_2 t \ldots + X_n}{n}$$

and the variance is calculated by:

$$s^2 = \frac{(X_1 - \bar{X})^2 + (X_2 - \bar{X})^2 t \ldots + (X_n - \bar{X})^2}{n - 1}$$

where "n" denotes the number of observations in the set of data.

The t-test uses these data summary measures to calculate a t-statistic (t^*) and a comparison t-statistic (t_c). The t^* value is compared to the t_c value and a conclusion reached as to whether there has been a statistically significant change in any indicator parameter.

The t-statistic for all parameters except pH and similar monitoring parameters is:

$$t^* = \frac{X_m - \bar{X}_B}{\sqrt{\frac{S_m^2}{n_m} + \frac{S_b^2}{n_b}}}$$

If the value of this t-statistic is negative then there is no significant difference between the monitoring data and background data. It should be noted that significantly small negative values may be indicative of a failure of the assumption made for test validity or errors have been made in collecting the background data.

The t-statistic (t_c), against which t^* will be compared, necessitates finding t_b and t_m from standard (one-tailed) tables where,

t_b = t-tables with ($n_b - 1$) degrees of freedom at the 0.05 level of significance.

t_m = t-tables with ($n_m - 1$) degrees of freedom at the 0.05 level of significance.

Finally, the special weightings W_b and W are defined as:

$$W_b = \frac{s_b^2}{n_b} \quad \text{and} \quad W_m = \frac{s_m^2}{n_m}$$

and so the comparison t-statistic is:

$$t_c = \frac{W_b t_b + W_m t_m}{W_b + W_m}$$

The t-statistic (t^*) is now compared with the comparison t-statistic (t_c) using the following decision-rule:

If *t^* is equal to or larger than* t_c, then conclude that there most likely *has been a significant increase* in this specific parameter.

If *t^* is less than* t_c, then conclude that most likely *there has not been a change* in this specific parameter.

The t-statistic for testing pH and similar monitoring parameters is constructed in the same manner as previously described except the negative sign (if any) is discarded and the caveat concerning the negative value is ignored. The standard (two-tailed) tables are used in the construction t_c for pH and similar monitoring parameters.

If t^* is equal to or larger than t_c, then conclude that there most likely *has been a significant increase* (if the initial t^* had been negative, this would imply a significant decrease). If t^* is less than t_c, then conclude that there most likely has been no change.

A further discussion of the test may be found in *Statistical Methods* (6th Edition, Section 4.14) by G. W. Snedecor and W. G. Cochran, or *Principles and Procedures of Statistics* (1st Edition, Section 5.8) by R. G. D. Steel and J. H. Torrie.

STANDARD T-TABLES 0.05 LEVEL OF SIGNIFICANCE

Degrees of freedom	t-values (one-tail)	t-values (two-tail)
1	6.314	12.706
2	2.920	4.303
3	2.353	3.182
4	2.132	2.776
5	2.015	2.571
6	1.943	2.447
7	1.895	2.365
8	1.860	2.306
9	1.833	2.262
10	1.812	2.228
11	1.796	2.201
12	1.782	2.179
13	1.771	2.160
14	1.761	2.145
15	1.753	2.131
16	1.746	2.120
17	1.740	2.110
18	1.734	2.101
19	1.729	2.093
20	1.725	2.086
21	1.721	2.080
22	1.717	2.074
23	1.714	2.069
24	1.711	2.064
25	1.708	2.060
30	1.697	2.042
40	1.684	2.021

Adopted from Table III of "*Statistical Tables for Biological, Agricultural, and Medical Research*" (1947, R. A. Fisher and F. Yates).

[47 FR 32367, July 26, 1982]

APPENDIX V—EXAMPLES OF POTENTIALLY INCOMPATIBLE WASTE

Many hazardous wastes, when mixed with other waste or materials at a hazardous waste facility, can produce effects which are harmful to human health and the environment, such as (1) heat or pressure, (2) fire or explosion, (3) violent reaction, (4) toxic dusts, mists, fumes, or gases, or (5) flammable fumes or gases.

Below are examples of potentially incompatible wastes, waste components, and materials, along with the harmful consequences which result from mixing materials in one group with materials in another group. The list is intended as a guide to owners or operators of treatment, storage, and disposal facilities, and to enforcement and permit granting officials, to indicate the need for special precautions when managing these potentially incompatible waste materials or components.

This list is not intended to be exhaustive. An owner or operator must, as the regulations require, adequately analyze his wastes so that he can avoid creating uncontrolled substances or reactions of the type listed below, whether they are listed below or not.

It is possible for potentially incompatible wastes to be mixed in a way that precludes a reaction (e.g., adding acid to water rather than water to acid) or that neutralizes them (e.g., a strong acid mixed with a strong base), or that controls substances produced (e.g., by generating flammable gases in a closed tank equipped so that ignition cannot occur, and burning the gases in an incinerator).

In the lists below, the mixing of a Group A material with a Group B material may have the potential consequence as noted.

GROUP 1-A

Acetylene sludge

Alkaline caustic liquids
Alkaline cleaner
Alkaline corrosive liquids
Alkaline corrosive battery fluid
Caustic wastewater
Lime sludge and other corrosive alkalies
Lime wastewater
Lime and water
Spent caustic

GROUP 1-B

Acid sludge
Acid and water
Battery acid
Chemical cleaners
Electrolyte, acid
Etching acid liquid or solvent
Pickling liquor and other corrosive acids
Spent acid
Spent mixed acid
Spent sulfuric acid

Potential consequences: Heat generation; violent reaction.

GROUP 2-A

Aluminum
Beryllium
Calcium
Lithium
Magnesium
Potassium
Sodium
Zinc powder
Other reactive metals and metal hydrides

GROUP 2-B

Any waste in Group 1-A or 1-B

Potential consequences: Fire or explosion; generation of flammable hydrogen gas.

GROUP 3-A

Alcohols
Water

GROUP 3-B

Any concentrated waste in Groups 1-A or 1-B
Calcium
Lithium
Metal hydrides
Potassium
SO_2Cl_2, $SOCl_2$, PCl_3, CH_3SiCl_3
Other water-reactive waste

Potential consequences: Fire, explosion, or heat generation; generation of flammable or toxic gases.

GROUP 4-A

Alcohols
Aldehydes
Halogenated hydrocarbons
Nitrated hydrocarbons
Unsaturated hydrocarbons
Other reactive organic compounds and solvents

GROUP 4-B

Concentrated Group 1-A or 1-B wastes
Group 2-A wastes

Potential consequences: Fire, explosion, or violent reaction.

GROUP 5-A

Spent cyanide and sulfide solutions

GROUP 5-B

Group 1-B wastes

Potential consequences: Generation of toxic hydrogen cyanide or hydrogen sulfide gas.

GROUP 6-A

Chlorates
Chlorine
Chlorites
Chromic acid
Hypochlorites
Nitrates
Nitric acid, fuming
Perchlorates
Permanganates
Peroxides
Other strong oxidizers

GROUP 6-B

Acetic acid and other organic acids
Concentrated mineral acids
Group 2-A wastes
Group 4-A wastes
Other flammable and combustible wastes

Potential consequences: Fire, explosion, or violent reaction.

Source: "Law, Regulations, and Guidelines for Handling of Hazardous Waste." California Department of Health, February 1975.

[46 FR 2872, Jan. 12, 1981]

APPENDIX VI—POLITICAL JURISDICTIONS[1] IN WHICH COMPLIANCE WITH § 264.18(a) MUST BE DEMONSTRATED

ALASKA

Aleutian Islands
Anchorage
Bethel
Bristol Bay
Cordova-Valdez
Fairbanks-Fort Yukon
Juneau
Kenai-Cook Inlet
Ketchikan-Prince of Wales
Kodiak
Lynn Canal-Icy Straits

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[1] These include counties, city-county consolidations, and independent cities. In the case of Alaska, the political jurisdictions are election districts, and, in the case of Hawaii, the political jurisdiction listed is the island of Hawaii.

Aleutian Islands
Anchorage
Bethel
Bristol Bay
Cordova-Valdez
Fairbanks-Fort Yukon
Juneau
Kenai-Cook Inlet
Ketchikan-Prince of Wales
Kodiak
Lynn Canal-Icy Straits
Palmer-Wasilla-Talkeena
Seward
Sitka
Wade Hampton
Wrangell Petersburg
Yukon-Kuskokwim

ARIZONA

Cochise
Graham
Greenlee
Yuma

CALIFORNIA

All

COLORADO

Archuleta
Conejos
Hinsdale
Mineral
Rio Grande
Saguache

HAWAII

Hawaii

IDAHO

Bannock
Bear Lake
Bingham
Bonneville
Caribou
Cassia
Clark
Franklin
Fremont
Jefferson
Madison
Oneida
Power
Teton

MONTANA

Beaverhead
Broadwater
Cascade
Deer Lodge
Flathead
Gallatin
Granite
Jefferson
Lake
Lewis and Clark
Madison
Meagher
Missoula
Park
Powell
Sanders
Silver Bow
Stillwater
Sweet Grass
Teton
Wheatland

NEVADA

All

NEW MEXICO

Bernalillo
Catron
Grant
Hidalgo
Los Alamos
Rio Arriba
Sandoval
Sante Fe
Sierra
Socorro
Taos
Torrance
Valencia

UTAH

Beaver
Box Elder
Cache
Carbon
Davis
Duchesne
Emery
Garfield
Iron
Juab
Millard
Morgan
Piute
Rich
Salt Lake
Sanpete
Sevier
Summit
Tooele
Utah
Wasatch
Washington
Wayne
Weber

WASHINGTON

Chelan
Clallam
Clark
Cowlitz
Douglas
Ferry
Grant
Grays Harbor
Jefferson
King
Kitsap
Kittitas
Lewis
Mason
Okanogan
Pacific
Pierce
San Juan Islands
Skagit
Skamania
Snohomish
Thurston
Wahkiakum
Whatcom
Yakima

WYOMING

Fremont
Lincoln
Park
Sublette
Teton
Uinta
Yellowstone National Park

[46 FR 57285, Nov. 23, 1981; 47 FR 953, Jan. 8, 1982]

APPENDICES VII—VIII [RESERVED]

APPENDIX IX—GROUND-WATER MONITORING LIST[1]

GROUND-WATER MONITORING LIST[1]

Common name[2]	CAS RN[3]	Chemical abstracts service index name[4]	Suggested methods[5]	PQL (μg/L)[6]
Acenaphthene	83-32-9	Acenaphthylene, 1,2-dihydro-	8100	200
			8270	10
Acenaphthylene	208-96-8	Acenaphthylene	8100	200
			8270	10
Acetone	67-64-1	2-Propanone	8240	100
Acetophenone	98-86-2	Ethanone, 1-phenyl-	8270	10
Acetonitrile; Methyl cyanide	75-05-8	Acetonitrile	8015	100
2-Acetylaminofluorene; 2-AAF	53-96-3	Acetamide, N-9H-fluoren-2-yl-	8270	10
Acrolein	107-02-8	2-Propenal	8030	5
			8240	5
Acrylonitrile	107-13-1	2-Propenenitrile	8030	5
			8240	5
Aldrin	309-00-2	1,4:5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro- 1,4,4a,5,8,8a-hexahydro-$(1\alpha,4\alpha,4a\beta,5\alpha,8\alpha,8a\beta)$-	8080	0.05
			8270	10
Allyl chloride	107-05-1	1-Propene, 3-chloro-	8010	5
			8240	100
4-Aminobiphenyl	92-67-1	[1,1′-Biphenyl]-4-amine	8270	10
Aniline	62-53-3	Benzenamine	8270	10
Anthracene	120-12-7	Anthracene	8100	200
			8270	10
Antimony	(Total)	Antimony	6010	300
			7040	2,000
			7041	30
Aramite	140-57-8	Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl ester.	8270	10
Arsenic	(Total)	Arsenic	6010	500
			7060	10
			7061	20
Barium	(Total)	Barium	6010	20
			7080	1,000
Benzene	71-43-2	Benzene	8020	2
			8240	5
Benzo[a]anthracene; Benzanthracene.	56-55-3	Benz[a]anthracene	8100	200
			8270	10
Benzo[b]fluoranthene	205-99-2	Benz[e]acephenanthrylene	8100	200
			8270	10
Benzo[k]fluoranthene	207-08-9	Benzo[k]fluoranthene	8100	200
			8270	10
Benzo[ghi]perylene	191-24-2	Benzo[ghi]perylene	8100	200
			8270	10
Benzo[a]pyrene	50-32-8	Benzo[a]pyrene	8100	200
			8270	10
Benzyl alcohol	100-51-6	Benzenemethanol	8270	20
Beryllium	(Total)	Beryllium	6010	3
			7090	50
			7091	2
alpha-BHC	319-84-6	Cyclohexane, 1,2,3,4,5,6-hexachloro-,$(1\alpha,2\alpha,3\beta,4\alpha,5\beta,6\beta)$-	8080	0.05
			8250	10
beta-BHC	319-85-7	Cyclohexane, 1,2,3,4,5,6-hexachloro-,$(1\alpha,2\beta,3\alpha,4\beta,5\alpha,6\beta)$-	8080	0.05
			8250	40
delta-BHC	319-86-8	Cyclohexane, 1,2,3,4,5,6-hexachloro-,$(1\alpha,2\alpha,3\alpha,4\beta,5\alpha,6\beta)$-	8080	0.1
			8250	30
gamma-BHC; Lindane	58-89-9	Cyclohexane, 1,2,3,4,5,6-hexachloro-,$(1\alpha,2\alpha,3\beta,4\alpha,5\alpha,6\beta)$-	8080	0.05
			8250	10
Bis(2-chloroethoxy)methane	111-91-1	Ethane, 1,1′-[methylenebis (oxy)]bis[2-chloro-	8270	10
Bis(2-chloroethyl)ether	111-44-4	Ethane, 1,1′-oxybis[2-chloro-	8270	10
Bis(2-chloro-1-methylethyl) ether; 2,2′-Di- chlorodiisopropyl ether.	108-60-1	Propane, 2,2′-oxybis[1-chloro-	8010	100
			8270	10
Bis(2-ethylhexyl) phthalate	117-81-7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl)ester.	8060	20
			8270	10
Bromodichloromethane	75-27-4	Methane, bromodichloro-	8010	1
			8240	5

GROUND-WATER MONITORING LIST [1]—Continued

Common name [2]	CAS RN [3]	Chemical abstracts service index name [4]	Suggested methods [5]	PQL (µg/L) [6]
romoform; Tribromomethane	75-25-2	Methane, tribromo-	8010	2
			8240	5
-Bromophenyl phenyl ether	101-55-3	Benzene, 1-bromo-4-phenoxy-	8270	10
utyl benzyl phthalate; Benzyl butyl phthalate	85-68-7	1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester.	8060	5
			8270	10
admium	(Total)	Cadmium	6010	40
			7130	50
			7131	1
arbon disulfide	75-15-0	Carbon disulfide	8240	5
arbon tetrachloride	56-23-5	Methane, tetrachloro-	8010	1
			8240	5
hlordane	57-74-9	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-.	8080	0.1
			8250	10
Chloroaniline	106-47-8	Benzenamine, 4-chloro-	8270	20
hlorobenzene	108-90-7	Benzene, chloro-	8010	2
			8020	2
			8240	5
hlorobenzilate	510-15-6	Benzeneacetic acid, 4-chloro-α-(4-chlorophenyl)-α-hydroxy-, ethyl ester.	8270	10
Chloro-m-cresol	59-50-7	Phenol, 4-chloro-3-methyl-	8040	5
			8270	20
hloroethane; Ethyl chloride	75-00-3	Ethane, chloro-	8010	5
			8240	10
hloroform	67-66-3	Methane, trichloro-	8010	0.5
			8240	5
Chloronaphthalene	91-58-7	Naphthalene, 2-chloro-	8120	10
			8270	10
Chlorophenol	95-57-8	Phenol, 2-chloro-	8040	5
			8270	10
Chlorophenyl phenyl ether	7005-72-3	Benzene, 1-chloro-4-phenoxy-	8270	10
hloroprene	126-99-8	1,3-Butadiene, 2-chloro-	8010	50
			8240	5
romium	(Total)	Chromium	6010	70
			7190	500
			7191	10
rysene	218-01-9	Chrysene	8100	200
			8270	10
balt	(Total)	Cobalt	6010	70
			7200	500
			7201	10
pper	(Total)	Copper	6010	60
			7210	200
Cresol	108-39-4	Phenol, 3-methyl-	8270	10
Cresol	95-48-7	Phenol, 2-methyl-	8270	10
Cresol	106-44-5	Phenol, 4-methyl-	8270	10
anide	57-12-5	Cyanide	9010	40
-D; 2,4-Dichlorophenoxyacetic acid.	94-75-7	Acetic acid, (2,4-dichlorophenoxy)-	8150	10
'-DDD	72-54-8	Benzene 1,1'-(2,2-dichloroethylidene)bis[4-chloro-	8080	0.1
			8270	10
'-DDE	72-55-9	Benzene, 1,1'-(dichloroethenylidene)bis[4-chloro-	8080	0.05
			8270	10
'-DDT	50-29-3	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro-	8080	0.1
			8270	10
llate	2303-16-4	Carbamothioic acid, bis(1-methylethyl)- S- (2,3-dichloro-2-propenyl) ester.	8270	10
enz[a,h]anthracene	53-70-3	Dibenz[a,h]anthracene	8100	200
			8270	10
enzofuran	132-64-9	Dibenzofuran	8270	10
romochloromethane; Chlorodi-romomethane	124-48-1	Methane, dibromochloro-	8010	1
			8240	5
-Dibromo-3-chloropropane; DBCP.	96-12-8	Propane, 1,2-dibromo-3-chloro-	8010	100
			8240	5
			8270	10
-Dibromoethane; Ethylene dibro-ide.	106-93-4	Ethane, 1,2-dibromo-	8010	10
			8240	5
-butyl phthalate	84-74-2	1,2-Benzenedicarboxylic acid, dibutyl ester	8060	5
			8270	10

GROUND-WATER MONITORING LIST [1]—Continued

Common name [2]	CAS RN [3]	Chemical abstracts service index name [4]	Suggested methods [5]	PQL (µg/L) [6]
o-Dichlorobenzene	95-50-1	Benzene, 1,2-dichloro-	8010 8020 8120 8270	2 5 10 10
m-Dichlorobenzene	541-73-1	Benzene, 1,3-dichloro-	8010 8020 8120 8270	5 5 10 10
p-Dichlorobenzene	106-46-7	Benzene, 1,4-dichloro-	8010 8020 8120 8270	2 5 15 10
3,3'-Dichlorobenzidine	91-94-1	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-	8270	20
trans-1,4-Dichloro-2-butene	110-57-6	2-Butene, 1,4-dichloro-, (E)-	8240	5
Dichlorodifluoromethane	75-71-8	Methane, dichlorodifluoro-	8010 8240	10 5
1,1-Dichloroethane	75-34-3	Ethane, 1,1-dichloro-	8010 8240	1 5
1,2-Dichloroethane; Ethylene dichloride.	107-06-2	Ethane, 1,2-dichloro-	8010 8240	0.5 5
1,1-Dichloroethylene; Vinylidene chloride.	75-35-4	Ethene, 1,1-dichloro-	8010 8240	1 5
trans-1,2-Dichloroethylene	156-60-5	Ethene, 1,2-dichloro-, (E)-	8010 8240	1 5
2,4-Dichlorophenol	120-83-2	Phenol, 2,4-dichloro-	8040 8270	5 10
2,6-Dichlorophenol	87-65-0	Phenol, 2,6-dichloro-	8270	10
1,2-Dichloropropane	78-87-5	Propane, 1,2-dichloro-	8010 8240	0.5 5
cis-1,3-Dichloropropene	10061-01-5	1-Propene, 1,3-dichloro-, (Z)-	8010 8240	20 5
trans-1,3-Dichloropropene	10061-02-6	1-Propene, 1,3-dichloro-, (E)-	8010 8240	5 5
Dieldrin	60-57-1	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aα,2β,2aα,3β,6β,6aα,7β,7aα)-	8080 8270	0.05 10
Diethyl phthalate	84-66-2	1,2-Benzenedicarboxylic acid, diethyl ester	8060 8270	5 10
O,O-Diethyl O-2-pyrazinyl phosphorothioate; Thionazin	297-97-2	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester.	8270	10
Dimethoate	60-51-5	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester.	8270	10
p-(Dimethylamino)azobenzene	60-11-7	Benzenamine, N,N-dimethyl-4-(phenylazo)-	8270	10
7,12-Dimethylbenz[a]anthracene	57-97-6	Benz[a]anthracene, 7,12-dimethyl-	8270	10
3,3'-Dimethylbenzidine	119-93-7	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-	8270	10
alpha, alpha-Dimethylphenethylamine.	122-09-8	Benzeneethanamine, α,α-dimethyl-	8270	10
2,4-Dimethylphenol	105-67-9	Phenol, 2,4-dimethyl-	8040 8270	5 10
Dimethyl phthalate	131-11-3	1,2-Benzenedicarboxylic acid, dimethyl ester	8060 8270	5 10
m-Dinitrobenzene	99-65-0	Benzene, 1,3-dinitro-	8270	10
4,6-Dinitro-o-cresol	534-52-1	Phenol, 2-methyl-4,6-dinitro-	8040 8270	150 50
2,4-Dinitrophenol	51-28-5	Phenol, 2,4-dinitro-	8040 8270	150 50
2,4-Dinitrotoluene	121-14-2	Benzene, 1-methyl-2,4-dinitro-	8090 8270	0.2 10
2,6-Dinitrotoluene	606-20-2	Benzene, 2-methyl-1,3-dinitro-	8090 8270	0.1 10
Dinoseb; DNBP; 2-sec-Butyl-4,6-dinitrophenol	88-85-7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-	8150 8270	1 10
Di-n-octyl phthalate	117-84-0	1,2-Benzenedicarboxylic acid, dioctyl ester	8060 8270	30 10
1,4-Dioxane	123-91-1	1,4-Dioxane	8015	150
Diphenylamine	122-39-4	Benzenamine, N-phenyl-	8270	10
Disulfoton	298-04-4	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl]ester	8140 8270	2 10

GROUND-WATER MONITORING LIST [1]—Continued

Common name [2]	CAS RN [3]	Chemical abstracts service index name [4]	Suggested methods [5]	PQL (μg/L) [6]
ndosulfan I	959-98-8	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide, (3α,5aβ,6α,9α,9aβ)-	8080 8250	0.1 10
ndosulfan II	33213-65-9	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro- 1,5,5a,6,9,9a-hexahydro-, 3-oxide, (3α,5aα,6β,9β,9aα)-	8080	0.05
ndosulfan sulfate	1031-07-8	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro- 1,5,5a,6,9,9a-hexahydro-, 3,3-dioxide	8080 8270	0.5 10
drin	72-20-8	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aα, 2β,2aβ,3α,6α, 6aβ,7β,7aα)-	8080 8250	0.1 10
drin aldehyde	7421-93-4	1,2,4-Methenocyclopenta[cd]pentalene-5-carboxaldehyde, 2,2a,3,3,4,7-hexachlorodecahydro-, (1α,2β,2aβ,4β,4aβ,5β,6aβ,6bβ,7R*)-	8080 8270	0.2 10
hylbenzene	100-41-4	Benzene, ethyl-	8020 8240	2 5
hyl methacrylate	97-63-2	2-Propenoic acid, 2-methyl-, ethyl ester	8015 8240 8270	10 5 10
hyl methanesulfonate	62-50-0	Methanesulfonic acid, ethyl ester	8270	10
mphur	52-85-7	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl]-O,O-dimethyl ester.	8270	10
oranthene	206-44-0	Fluoranthene	8100 8270	200 10
orene	86-73-7	9H-Fluorene	8100 8270	200 10
ptachlor	76-44-8	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-	8080 8270	0.05 10
ptachlor epoxide	1024-57-3	2,5-Methano-2H-indeno[1,2-b]oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a,-hexahydro-, (1aα,1bβ,2α,5α,5aβ,6β,6aα)	8080 8270	1 10
xachlorobenzene	118-74-1	Benzene, hexachloro-	8120 8270	0.5 10
xachlorobutadiene	87-68-3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	8120 8270	5 10
xachlorocyclopentadiene	77-47-4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-	8120 8270	5 10
xachloroethane	67-72-1	Ethane, hexachloro-	8120 8270	0.5 10
xachlorophene	70-30-4	Phenol, 2,2′-methylenebis[3,4,6-trichloro-	8270	10
xachloropropene	1888-71-7	1-Propene, 1,1,2,3,3,3-hexachloro-	8270	10
Hexanone	591-78-6	2-Hexanone	8240	50
eno(1,2,3-cd)pyrene	193-39-5	Indeno[1,2,3-cd]pyrene	8100 8270	200 10
butyl alcohol	78-83-1	1-Propanol, 2-methyl-	8015	50
drin	465-73-6	1,4,5,8-Dimethanonaphthalene,1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a hexahydro-(1α,4α,4aβ,5β,8β,8aβ)-	8270	10
phorone	78-59-1	2-Cyclohexen-1-one, 3,5,5-trimethyl-	8090 8270	60 10
safrole	120-58-1	1,3-Benzodioxole, 5-(1-propenyl)-	8270	10
pone	143-50-0	1,3,4-Metheno-2H-cyclobuta- [cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-	8270	10
ad	(Total)	Lead	6010 7420 7421	40 1,000 10
rcury	(Total)	Mercury	7470	2
thacrylonitrile	126-98-7	2-Propenenitrile, 2-methyl-	8015 8240	5 5
thapyrilene	91-80-5	1,2,Ethanediamine, N,N-dimethyl-N′-2-pyridinyl-N′-(2-thienylmethyl)-.	8270	10
thoxychlor	72-43-5	Benzene, 1,1′-(2,2,2,trichloroethylidene)bis[4-methoxy-.	8080 8270	2 10
thyl bromide; Bromomethane	74-83-9	Methane, bromo-	8010 8240	20 10

GROUND-WATER MONITORING LIST [1]—Continued

Common name [2]	CAS RN [3]	Chemical abstracts service index name [4]	Suggested methods [5]	PQL (µg/L) [6]
Methyl chloride; Chloromethane	74-87-3	Methane, chloro-	8010 8240	1 10
3-Methylcholanthrene	56-49-5	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-	8270	10
Methylene bromide; Dibromomethane	74-95-3	Methane, dibromo-	8010 8240	15 5
Methylene chloride; Dichloromethane	75-09-2	Methane, dichloro-	8010 8240	5 5
Methyl ethyl ketone; MEK	78-93-3	2-Butanone	8015 8240	10 100
Methyl iodide; Iodomethane	74-88-4	Methane, iodo-	8010 8240	40 5
Methyl methacrylate	80-62-6	2-Propenoic acid, 2-methyl-, methyl ester	8015 8240	2 5
Methyl methanesulfonate	66-27-3	Methanesulfonic acid, methyl ester	8270	10
2-Methylnaphthalene	91-57-6	Naphthalene, 2-methyl-	8270	10
Methyl parathion; Parathion methyl	298-00-0	Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl) ester	8140 8270	0.5 10
4-Methyl-2-pentanone; Methyl isobutyl ketone	108-10-1	2-Pentanone, 4-methyl-	8015 8240	5 50
Naphthalene	91-20-3	Naphthalene	8100 8270	200 10
1,4-Naphthoquinone	130-15-4	1,4-Naphthalenedione	8270	10
1-Naphthylamine	134-32-7	1-Naphthalenamine	8270	10
2-Naphthylamine	91-59-8	2-Naphthalenamine	8270	10
Nickel	(Total)	Nickel	6010 7520	50 400
o-Nitroaniline	88-74-4	Benzenamine, 2-nitro-	8270	50
m-Nitroaniline	99-09-2	Benzenamine, 3-nitro-	8270	50
p-Nitroaniline	100-01-6	Benzenamine, 4-nitro-	8270	50
Nitrobenzene	98-95-3	Benzene, nitro-	8090 8270	40 10
o-Nitrophenol	88-75-5	Phenol, 2-nitro-	8040 8270	5 10
p-Nitrophenol	100-02-7	Phenol, 4-nitro-	8040 8270	10 50
4-Nitroquinoline 1-oxide	56-57-5	Quinoline, 4-nitro-, 1-oxide	8270	10
N-Nitrosodi-n-butylamine	924-16-3	1-Butanamine, N-butyl-N-nitroso-	8270	10
N-Nitrosodiethylamine	55-18-5	Ethanamine, N-ethyl-N-nitroso-	8270	10
N-Nitrosodimethylamine	62-75-9	Methanamine, N-methyl-N-nitroso-	8270	10
N-Nitrosodiphenylamine	86-30-6	Benzenamine, N-nitroso-N-phenyl-	8270	10
N-Nitrosodipropylamine; Di-n-propylnitrosamine	621-64-7	1-Propanamine, N-nitroso-N-propyl-	8270	10
N-Nitrosomethylethylamine	10595-95-6	Ethanamine, N-methyl-N-nitroso-	8270	10
N-Nitrosomorpholine	59-89-2	Morpholine, 4-nitroso-	8270	10
N-Nitrosopiperidine	100-75-4	Piperidine, 1-nitroso-	8270	10
N-Nitrosopyrrolidine	930-55-2	Pyrrolidine, 1-nitroso-	8270	10
5-Nitro-o-toluidine	99-55-8	Benzenamine, 2-methyl-5-nitro-	8270	10
Parathion	56-38-2	Phosphorothioic acid, O,O-diethyl-O-(4-nitrophenyl) ester	8270	10
Polychlorinated biphenyls; PCBs	See Note 7	1,1'-Biphenyl, chloro derivatives	8080 8250	50 100
Polychlorinated dibenzo-p-dioxins; PCDDs	See Note 8	Dibenzo[b,e][1,4]dioxin, chloro derivatives	8280	0.0
Polychlorinated dibenzofurans; PCDFs	See Note 9	Dibenzofuran, chloro derivatives	8280	0.0
Pentachlorobenzene	608-93-5	Benzene, pentachloro-	8270	10
Pentachloroethane	76-01-7	Ethane, pentachloro-	8240 8270	5 10
Pentachloronitrobenzene	82-68-8	Benzene, pentachloronitro-	8270	10
Pentachlorophenol	87-86-5	Phenol, pentachloro-	8040 8270	5 50
Phenacetin	62-44-2	Acetamide, N-(4-ethoxyphenyl)	8270	10
Phenanthrene	85-01-8	Phenanthrene	8100 8270	200 10
Phenol	108-95-2	Phenol	8040 8270	1 10
p-Phenylenediamine	106-50-3	1,4-Benzenediamine	8270	10

GROUND-WATER MONITORING LIST [1]—Continued

Common name [2]	CAS RN [3]	Chemical abstracts service index name [4]	Suggested methods [5]	PQL (µg/L) [6]
Phorate	298-02-2	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester	8140	2
			8270	10
2-Picoline	109-06-8	Pyridine, 2-methyl-	8240	5
			8270	10
Pronamide	23950-58-5	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-	8270	10
Propionitrile; Ethyl cyanide	107-12-0	Propanenitrile	8015	60
			8240	5
Pyrene	129-00-0	Pyrene	8100	200
			8270	10
Pyridine	110-86-1	Pyridine	8240	5
			8270	10
Safrole	94-59-7	1,3-Benzodioxole, 5-(2-propenyl)-	8270	10
Selenium	(Total)	Selenium	6010	750
			7740	20
			7741	20
Silver	(Total)	Silver	6010	70
			7760	100
Silvex; 2,4,5-TP	93-72-1	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-	8150	2
Styrene	100-42-5	Benzene, ethenyl-	8020	1
			8240	5
Sulfide	18496-25-8	Sulfide	9030	10,000
2,4,5-T; 2,4,5-Trichlorophenoxyacetic acid.	93-76-5	Acetic acid, (2,4,5-trichlorophenoxy)-	8150	2
2,3,7,8-TCDD; 2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746-01-6	Dibenzo[b,e][1,4]dioxin, 2,3,7,8-tetrachloro-	8280	0.005
1,2,4,5-Tetrachlorobenzene	95-94-3	Benzene, 1,2,4,5-tetrachloro-	8270	10
1,1,1,2-Tetrachloroethane	630-20-6	Ethane, 1,1,1,2-tetrachloro-	8010	5
			8240	5
1,1,2,2-Tetrachloroethane	79-34-5	Ethane, 1,1,2,2-tetrachloro-	8010	0.5
			8240	5
Tetrachloroethylene; Perchloroethylene; Tetrachloroethene.	127-18-4	Ethene, tetrachloro-	8010	0.5
			8240	5
2,3,4,6-Tetrachlorophenol	58-90-2	Phenol, 2,3,4,6-tetrachloro-	8270	10
Tetraethyl dithiopyrophosphate; Sulfotepp.	3689-24-5	Thiodiphosphoric acid ([(HO)$_2$P(S)]$_2$O), tetraethyl ester	8270	10
Thallium	(Total)	Thallium	6010	400
			7840	1,000
			7841	10
Tin	(Total)	Tin	7870	8,000
Toluene	108-88-3	Benzene, methyl-	8020	2
			8240	5
o-Toluidine	95-53-4	Benzenamine, 2-methyl-	8270	10
Toxaphene	8001-35-2	Toxaphene	8080	2
			8250	10
1,2,4-Trichlorobenzene	120-82-1	Benzene, 1,2,4-trichloro-	8270	10
1,1,1-Trichloroethane; Methylchloroform.	71-55-6	Ethane, 1,1,1-trichloro-	8240	5
1,1,2-Trichloroethane	79-00-5	Ethane, 1,1,2-trichloro-	8010	0.2
			8240	5
Trichloroethylene; Trichloroethene	79-01-6	Ethene, trichloro-	8010	1
			8240	5
Trichlorofluoromethane	75-69-4	Methane, trichlorofluoro-	8010	10
			8240	5
2,4,5-Trichlorophenol	95-95-4	Phenol, 2,4,5-trichloro-	8270	10
2,4,6-Trichlorophenol	88-06-2	Phenol, 2,4,6-trichloro-	8040	5
			8270	10
1,2,3-Trichloropropane	96-18-4	Propane, 1,2,3-trichloro-	8010	10
			8240	5
O,O,O-Triethyl phosphorothioate	126-68-1	Phosphorothioic acid, O,O,O-triethyl ester	8270	10
sym-Trinitrobenzene	99-35-4	Benzene, 1,3,5-trinitro-	8270	10
Vanadium	(Total)	Vanadium	6010	80
			7910	2,000
			7911	40
Vinyl acetate	108-05-4	Acetic acid, ethenyl ester	8240	5
Vinyl chloride	75-01-4	Ethene, chloro-	8010	2
			8240	10
Xylene (total)	1330-20-7	Benzene, dimethyl-	8020	5

GROUND-WATER MONITORING LIST [1]—Continued

Common name [2]	CAS RN [3]	Chemical abstracts service index name [4]	Suggested methods [5]	PQL (µg/L) [6]
Zinc	(Total)	Zinc	8240 6010 7950	5 20 50

[1] The regulatory requirements pertain only to the list of substances; the right hand columns (Methods and PQL) are given for informational purposes only. See also footnotes 5 and 6.

[2] Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.

[3] Chemical Abstracts Service registry number. Where "Total" is entered, all species in the ground water that contain the element are included.

[4] CAS index names are those used in the 9th Cumulative Index.

[5] Suggested Methods refer to analytical procedure numbers used in EPA Report SW-846 "Test Methods for Evaluating Solid Waste", third edition, November 1986. Analytical details can be found in SW-846 and in documentation on file at the agency. CAUTION: The methods listed are representative SW-846 procedures and may not always be the most suitable method(s) for monitoring an analyte under the regulations.

[6] Practical Quantitation Limits (PQLs) are the lowest concentrations of analytes in ground waters that can be reliably determined within specified limits of precision and accuracy by the indicated methods under routine laboratory operating conditions. The PQLs listed are generally stated to one significant figure. CAUTION: The PQL values in many cases are based only on a general estimate for the method and not on a determination for individual compounds; PQLs are not a part of the regulation.

[7] Polychlorinated biphenyls (CAS RN 1336-36-3); this category contains congener chemicals, including constituents of Aroclor-1016 (CAS RN 12674-11-2), Aroclor-1221 (CAS RN 11104-28-2), Aroclor-1232 (CAS RN 11141-16-5), Aroclor-1242 (CAS RN 53469-21-9), Aroclor-1248 (CAS RN 12672-29-6), Aroclor-1254 (CAS RN 11097-69-1), and Aroclor-1260 (CAS RN 11096-82-5). The PQL shown is an average value for PCB congeners.

[8] This category contains congener chemicals, including tetrachlorodibenzo-p-dioxins (see also 2,3,7,8-TCDD), pentachlorodibenzo-p-dioxins, and hexachlorodibenzo-p-dioxins. The PQL shown is an average value for PCDD congeners.

[9] This category contains congener chemicals, including tetrachlorodibenzofurans, pentachlorodibenzofurans, and hexachlorodibenzofurans. The PQL shown is an average value for PCDF congeners.

[52 FR 25947, July 9, 1987]

PART 265—INTERIM STATUS STANDARDS FOR OWNERS AND OPERATORS OF HAZARDOUS WASTE TREATMENT, STORAGE, AND DISPOSAL FACILITIES

Subpart A—General

Sec.
265.1 Purpose, scope, and applicability.
265.2—265.3 [Reserved]
265.4 Imminent hazard action.

Subpart B—General Facility Standards

265.10 Applicability.
265.11 Identification number.
265.12 Required notices.
265.13 General waste analysis.
265.14 Security.
265.15 General inspection requirements.
265.16 Personnel training.
265.17 General requirements for ignitable, reactive, or incompatible wastes.
265.18 Location standards.

Subpart C—Preparedness and Prevention

265.30 Applicability.
265.31 Maintenance and operation of facility.
265.32 Required equipment.

Sec.
265.33 Testing and maintenance of equipment.
265.34 Access to communications or alarm system.
265.35 Required aisle space.
265.36 [Reserved]
265.37 Arrangements with local authorities.

Subpart D—Contingency Plan and Emergency Procedures

265.50 Applicability.
265.51 Purpose and implementation of contingency plan.
265.52 Content of contingency plan.
265.53 Copies of contingency plan.
265.54 Amendment of contingency plan.
265.55 Emergency coordinator.
265.56 Emergency procedures.

Subpart E—Manifest System, Recordkeeping and Reporting

265.70 Applicability.
265.71 Use of manifest system.
265.72 Manifest discrepancies.
265.73 Operating record.
265.74 Availability, retention, and disposition of records.
265.75 Biennial report.
265.76 Unmanifested waste report.
265.77 Additional reports.

Sec.

Subpart F—Ground-Water Monitoring

265.90 Applicability.
265.91 Ground-water monitoring system.
265.92 Sampling and analysis.
265.93 Preparation, evaluation, and response.
265.94 Recordkeeping and reporting.

Subpart G—Closure and Post-Closure

265.110 Applicability.
265.111 Closure performance standard.
265.112 Closure plan; amendment of plan.
265.113 Closure; time allowed for closure.
265.114 Disposal or decontamination of equipment, structures and soils.
265.115 Certification of closure.
265.116 Survey plat.
265.117 Post-closure care and use of property.
265.118 Post-closure plan; amendment of plan.
265.119 Post-closure notices.
265.120 Certification of completion of post-closure care.

Subpart H—Financial Requirements

265.140 Applicability.
265.141 Definitions of terms as used in this subpart.
265.142 Cost estimate for closure.
265.143 Financial assurance for closure.
265.144 Cost estimate for post-closure care.
265.145 Financial assurance for post-closure care.
265.146 Use of a mechanism for financial assurance of both closure and post-closure care.
265.147 Liability requirements.
265.148 Incapacity of owners or operators, guarantors, or financial institutions.
265.149 Use of State-required mechanisms.
265.150 State assumption of responsibility.

Subpart I—Use and Management of Containers

265.170 Applicability.
265.171 Condition of containers.
265.172 Compatibility of waste with container.
265.173 Management of containers.
265.174 Inspections.
265.175 [Reserved]
265.176 Special requirements for ignitable or reactive waste.
265.177 Special requirements for incompatible wastes.

Subpart J—Tank Systems

265.190 Applicability.
265.191 Assessment of existing tank system's integrity.
Sec.
265.192 Design and installation of new tank systems or components.
265.193 Containment and detection of releases.
265.194 General operating requirements.
265.195 Inspections.
265.196 Response to leaks or spills and disposition of leaking or unfit-for-use tank systems.
265.197 Closure and post-closure care.
265.198 Special requirements for ignitable or reactive wastes.
265.199 Special requirements for incompatible wastes.
265.200 Waste analysis and trial tests.
265.201 Special requirements for generators of between 100 and 1,000 kg/mo that accumulate hazardous waste in tanks.

Subpart K—Surface Impoundments

265.220 Applicability.
265.221 Design requirements.
265.222 General operating requirements.
265.223 Containment system.
265.224 [Reserved]
265.225 Waste analysis and trial tests.
265.226 Inspections.
265.227 [Reserved]
265.228 Closure and post-closure care.
265.229 Special requirements for ignitable or reactive waste.
265.230 Special requirements for incompatible wastes.

Subpart L—Waste Piles

265.250 Applicability.
265.251 Protection from wind.
265.252 Waste analysis.
265.253 Containment.
265.254 Design requirements.
265.255 [Reserved]
265.256 Special requirements for ignitable or reactive waste.
265.257 Special requirements for incompatible wastes.
265.258 Closure and post-closure care.

Subpart M—Land Treatment

265.270 Applicability.
265.271 [Reserved]
265.272 General operating requirements.
265.273 Waste analysis.
265.274—265.275 [Reserved]
265.276 Food chain crops.
265.277 [Reserved]
265.278 Unsaturated zone (zone of aeration) monitoring.
265.279 Recordkeeping.
265.280 Closure and post-closure.
265.281 Special requirements for ignitable or reactive waste.

Sec.

265.282 Special requirements for incompatible wastes.

Subpart N—Landfills

265.300 Applicability.
265.301 Design requirements.
265.302 General operating requirements.
265.303—265.308 [Reserved]
265.309 Surveying and recordkeeping.
265.310 Closure and post-closure care.
265.311 [Reserved]
265.312 Special requirements for ignitable or reactive waste.
265.313 Special requirements for incompatible wastes.
265.314 Special requirements for bulk and containerized liquids.
265.315 Special requirements for containers.
265.316 Disposal of small containers of hazardous waste in overpacked drums (lab packs).

Subpart O—Incinerators

265.340 Applicability.
265.341 Waste analysis.
265.342—265.344 [Reserved]
265.345 General operating requirements.
265.346 [Reserved]
265.347 Monitoring and inspections.
265.348—265.350 [Reserved]
265.351 Closure.
265.352 Interim status incinerators burning particular hazardous wastes.
265.353—265.369 [Reserved]

Subpart P—Thermal Treatment

265.370 Other thermal treatment.
265.371—265.372 [Reserved]
265.373 General operating requirements.
265.374 [Reserved]
265.375 Waste analysis.
265.376 [Reserved]
265.377 Monitoring and inspections.
265.378—265.380 [Reserved]
265.381 Closure.
265.382 Open burning; waste explosives.
265.383 Interim status thermal treatment devices burning particular hazardous waste.

Subpart Q—Chemical, Physical, and Biological Treatment

265.400 Applicability.
265.401 General operating requirements.
265.402 Waste analysis and trial tests.
265.403 Inspections.
265.404 Closure.
265.405 Special requirements for ignitable or reactive waste.
265.406 Special requirements for incompatible wastes.

Sec.

Subpart R—Underground Injection

265.430 Applicability.

Subparts S—Z [Reserved]

Subpart AA—Air Emission Standards for Process Vents

265.1030 Applicability.
265.1031 Definitions.
265.1032 Standards: Process vents.
265.1033 Standards: Closed-vent systems and control devices.
265.1034 Test methods and procedures.
265.1035 Recordkeeping requirements.
265.1036—265.1049 [Reserved]

Subpart BB—Air Emission Standards for Equipment Leaks

265.1050 Applicability.
265.1051 Definitions.
265.1052 Standards: Pumps in light liquid service.
265.1053 Standards: Compressors.
265.1054 Standards: Pressure relief devices in gas/vapor service.
265.1055 Standards: Sampling connecting systems.
265.1056 Standards: Open-ended valves or lines.
265.1057 Standards: Valves in gas/vapor service or in light liquid service.
265.1058 Standards: Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors.
265.1059 Standards: Delay of repair.
265.1060 Standards: Closed-vent systems and control devices.
265.1061 Alternative standards for valves in gas/vapor service or in light liquid service: percentage of valves allowed to leak.
265.1062 Alternative standards for valves in gas/vapor service or in light liquid service: skip period leak detection and repair.
265.1063 Test methods and procedures.
265.1064 Recordkeeping requirements.
265.1065—265.1079 [Reserved]

APPENDIX I—RECORDKEEPING INSTRUCTIONS
APPENDIX II—[RESERVED]
APPENDIX III—EPA INTERIM PRIMARY DRINKING WATER STANDARDS
APPENDIX IV—TESTS FOR SIGNIFICANCE
APPENDIX V—EXAMPLES OF POTENTIALLY INCOMPATIBLE WASTE

AUTHORITY: 42 U.S.C. 6905, 6912(a), 6924, 6925, and 6935.

SOURCE: 45 FR 33232, May 19, 1980, unless otherwise noted.

EDITORIAL NOTE: The reporting or recordkeeping provisions included in the final rule published at 47 FR 32274, July 26, 1982, will be submitted for approval to the Office of Management and Budget and will not become effective until OMB approval has been obtained. EPA will publish a notice in the FEDERAL REGISTER after it obtains OMB approval.

Subpart A—General

§ 265.1 Purpose, scope, and applicability.

(a) The purpose of this part is to establish minimum national standards that define the acceptable management of hazardous waste during the period of interim status and until certification of final closure or, if the facility is subject to post-closure requirements, until post-closure responsibilities are fulfilled.

(b) The standards of this part apply to owners and operators of facilities that treat, store or dispose of hazardous waste who have fully complied with the requirements for interim status under section 3005(e) of RCRA and § 270.10 of this chapter until either a permit is issued under section 3005 of RCRA or until applicable Part 265 closure and post-closure responsibilities are fulfilled, and to those owners and operators of facilities in existence on November 19, 1980 who have failed to provide timely notification as required by section 3010(a) of RCRA and/or failed to file Part A of the permit application as required by 40 CFR 270.10 (e) and (g). These standards apply to all treatment, storage and disposal of hazardous waste at these facilities after the effective date of these regulations, except as specifically provided otherwise in this part or Part 261 of this chapter.

[*Comment:* As stated in section 3005(a) of RCRA, after the effective date of regulations under that section (i.e., Parts 270 and 124 of this chapter), the treatment, storage and disposal of hazardous waste is prohibited except in accordance with a permit. Section 3005(e) of RCRA provides for the continued operation of an existing facility that meets certain conditions, until final administrative disposition of the owner's and operator's permit application is made.]

(c) The requirements of this part do not apply to:

(1) A person disposing of hazardous waste by means of ocean disposal subject to a permit issued under the Marine Protection, Research, and Sanctuaries Act;

[*Comment:* These Part 265 regulations do apply to the treatment or storage of hazardous waste before it is loaded onto an ocean vessel for incineration or disposal at sea, as provided in paragraph (b) of this section.]

(2) [Reserved]

(3) The owner or operator of a POTW which treats, stores, or disposes of hazardous waste;

[*Comment:* The owner or operator of a facility under paragraphs (c)(1) through (3) of this section is subject to the requirements of Part 264 of this chapter to the extent they are included in a permit by rule granted to such a person under Part 122 of this chapter, or are required by § 144.14 of this chapter.]

(4) A person who treats, stores, or disposes of hazardous waste in a State with a RCRA hazardous waste program authorized under Subpart A or B of Part 271 of this chapter, except that the requirements of this part will continue to apply:

(i) As stated in paragraph (c)(2) of this section, if the authorized State RCRA program does not cover disposal of hazardous waste by means of underground injection; or

(ii) To a person who treats, stores, or disposes of hazardous waste in a State authorized under Subpart A or B of Part 271 of this chapter if the State has not been authorized to carry out the requirements and prohibitions applicable to the treatment, storage, or disposal of hazardous waste at his facility which are imposed pursuant to the Hazardous and Solid Waste Act Amendments of 1984. The requirements and prohibitions that are applicable until a State receives authorization to carry them out include all Federal program requirements identified in § 271.1(j);

(5) The owner or operator of a facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the only hazardous waste the facility treats, stores, or disposes of is excluded from regulation under this part by § 261.5 of this chapter;

(6) The owner and operator of a facility managing recyclable materials described in § 261.6 (a) (2) and (3) of this chapter (except to the extent that requirements of this part are referred to in Subparts C, D, F, or G of Part 266 of this chapter).

(7) A generator accumulating waste on-site in compliance with § 262.34 of this chapter, except to the extent the requirements are included in § 262.34 of this chapter;

(8) A farmer disposing of waste pesticides from his own use in compliance with § 262.70 of this chapter; or

(9) The owner or operator of a totally enclosed treatment facility, as defined in § 260.10.

(10) The owner or operator of an elementary neutralization unit or a wastewater treatment unit as defined in § 260.10 of this chapter.

(11)(i) Except as provided in paragraph (c)(11)(ii) of this section, a person engaged in treatment or containment activities during immediate response to any of the following situations:

(A) A discharge of a hazardous waste;

(B) An imminent and substantial threat of a discharge of a hazardous waste;

(C) A discharge of a material which, when discharged, becomes a hazardous waste.

(ii) An owner or operator of a facility otherwise regulated by this part must comply with all applicable requirements of Subparts C and D.

(iii) Any person who is covered by paragraph (c)(11)(i) of this section and who continues or initiates hazardous waste treatment or containment activities after the immediate response is over is subject to all applicable requirements of this part and Parts 122 through 124 of this chapter for those activities.

(12) A transporter storing manifested shipments of hazardous waste in containers meeting the requirements of 40 CFR 262.30 at a transfer facility for a period of ten days or less.

(13) The addition of absorbent material to waste in a container (as defined in § 260.10 of this chapter) or the addition of waste to the absorbent material in a container provided that these actions occur at the time waste is fir
placed in the containers; an
§§ 265.17(b), 265.171, and 265.172 ar
complied with.

(d) The following hazardous wast
must not be managed at facilities su
ject to regulation under this part.

(1) EPA Hazardous Waste No
FO20, FO21, FO22, FO23, FO26,
FO27 unless:

(i) The wastewater treatment sludg
is generated in a surface impoundmen
as part of the plant's wastewater trea
ment system;

(ii) The waste is stored in tanks
containers;

(iii) The waste is stored or treated
waste piles that meet the requir
ments of § 264.250(c) as well as
other applicable requirements of Su
part L of this part;

(iv) The waste is burned in incine
ators that are certified pursuant
the standards and procedures
§ 265.352; or

(v) The waste is burned in faciliti
that thermally treat the waste in
device other than an incinerator an
that are certified pursuant to th
standards and procedures in § 265.38

(e) The requirements of this pa
apply to owners or operators of all f
cilities which treat, store or dispose
hazardous waste referred to in 40 CF
part 268, and the 40 CFR part 2
standards are considered material co
ditions or requirements of the part 2
interim status standards.

[45 FR 33232, May 1980]

EDITORIAL NOTE: For FEDERAL REGISTE
tations affecting § 265.1, see the List of CF
Sections Affected in the Finding Aids s
tion of this volume.

§§ 265.2—265.3 [Reserved]

§ 265.4 Imminent hazard action.

Notwithstanding any other prov
sions of these regulations, enforc
ment actions may be brought purs
ant to section 7003 of RCRA.

Subpart B—General Facility Standards

§ 265.10 Applicability

The regulations in this subpart apply to owners and operators of all hazardous waste facilities, except as § 265.1 provides otherwise.

§ 265.11 Identification number.

Every facility owner or operator must apply to EPA for an EPA identification number in accordance with the EPA notification procedures (45 FR 12746).

§ 265.12 Required notices.

(a) The owner or operator of a facility that has arranged to receive hazardous waste from a foreign source must notify the Regional Administrator in writing at least four weeks in advance of the date of the waste is expected to arrive at the facility. Notice of subsequent shipments of the same waste from the same foreign source is not required.

(b) Before transferring ownership or operation of a facility during its operating life, or of a disposal facility during the post-closure care period, the owner or operator must notify the new owner or operator in writing of the requirements of this part and Part 270 of this chapter. (Also see § 270.72 of this chapter.)

[*Comment:* An owner's or operator's failure to notify the new owner or operator of the requirements of this part in no way relieves the new owner or operator of his obligation to comply with all applicable requirements.]

(Approved by the Office of Management and Budget under control number 2050-0013)

[45 FR 33232, May 19, 1980, as amended at 48 FR 14295, Apr. 1, 1983; 50 FR 4514, Jan. 31, 1985]

§ 265.13 General waste analysis.

(a)(1) Before an owner or operator treats, stores or disposes of any hazardous wastes, or non-hazardous wastes if applicable under § 265.113(d), he must obtain a detailed chemical and physical analysis of a representative sample of the wastes.

(2) The analysis may include data developed under Part 261 of this chapter, and existing published or documented data on the hazardous waste or on waste generated from similar processes.

COMMENT: for example, the facility's records of analyses performed on the waste before the effective date of these regulations, or studies conducted on hazardous waste generated from processes similar to that which generated the waste to be managed at the facility, may be included in the data base required to comply with paragraph (a)(1) of this section. The owner or operator of an off-site facility may arrange for the generator of the hazardous waste to supply part of the information required by paragraph (a)(1) of this section, except as otherwise specified in 40 CFR 268.7 (b) and (c). If the generator does not supply the information, and the owner or operator chooses to accept a hazardous waste, the owner or operator is responsible for obtaining the information required to comply with this section.]

(3) The analysis must be repeated as necessary to ensure that it is accurate and up to date. At a minimum, the analysis must be repeated:

(i) When the owner or operator is notified, or has reason to believe, that the process or operation generating the hazardous wastes or non-hazardous wastes, if applicable, under §265.113(d) has changed; and

(ii) For off-site facilities, when the results of the inspection required in paragraph (a)(4) of this section indicate that the hazardous waste received at the facility does not match the waste designated on the accompanying manifest or shipping paper.

(4) The owner or operator of an off-site facility must inspect and, if necessary, analyze each hazardous waste movement received at the facility to determine whether it matches the identity of the waste specified on the accompanying manifest or shipping paper.

(b) The owner or operator must develop and follow a written waste analysis plan which describes the procedures which he will carry out to comply with paragraph (a) of this section. He must keep this plan at the facility. At a minimum, the plan must specify:

(1) The parameters for which each hazardous waste, or non-hazardous waste if applicable under §265.113(d), will be analyzed and the rationale for

the selection of these parameters (i.e., how analysis for these parameters will provide sufficient information on the waste's properties to comply with paragraph (a) of this section);

(2) The test methods which will be used to test for these parameters;

(3) The sampling method which will be used to obtain a representative sample of the waste to be analyzed. A representative sample may be obtained using either:

(i) One of the sampling methods described in Appendix I of Part 261 of this chapter; or

(ii) An equivalent sampling method.

[*Comment:* See § 260.20(c) of this chapter for related discussion.]

(4) The frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up to date;

(5) For off-site facilities, the waste analyses that hazardous waste generators have agreed to supply; and

(6) Where applicable, the methods that will be used to meet the additional waste analysis requirements for specific waste management methods as specified in §§ 265.193, 265.225, 265.252, 265.273, 265.314, 265.341, 265.375, 265.402, 265.1034(d), 265.1063(d), and 268.7 of this chapter.

(7) For surface impoundments exempted from land disposal restrictions under § 268.4(a) of this chapter, the procedures and schedule for:

(i) The sampling of impoundment contents;

(ii) The analysis of test data; and,

(iii) The annual removal of residues which are not delisted under § 260.22 of this chapter or which exhibit a characteristic of hazardous waste and either:

(A) Do not meet applicable treatment standards of Part 268, Subpart D; or

(B) Where no treatment standards have been established;

(*1*) Such residues are prohibited from land disposal under § 268.32 or RCRA section 3004(d); or

(*2*) Such residues are prohibited from land disposal under § 268.33(f).

(c) For off-site facilities, the waste analysis plan required in paragraph (b) of this section must also specify the procedures which will be used to inspect and, if necessary, analyze each movement of hazardous waste received at the facility to ensure that it matches the identity of the waste designated on the accompanying manifest or shipping paper. At a minimum, the plan must describe:

(1) The procedures which will be used to determine the identity of each movement of waste managed at the facility; and

(2) The sampling method which will be used to obtain a representative sample of the waste to be identified, if the identification method includes sampling.

(Approved by the Office of Management and Budget under control number 2050-0012)

[45 FR 33232, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985; 50 FR 18374, Apr. 30, 1985; 51 FR 40638, Nov. 7, 1986; 52 FR 25788 July 8, 1987; 54 FR 33396, Aug. 14, 1989; 55 FR 22685, June 1, 1990; 55 FR 25506, June 21, 1990]

EFFECTIVE DATE NOTE: At 55 FR 25506, June 21, 1990, in § 265.13, paragraph (b)(6) was revised, effective December 21, 1990. For the convenience of the user the superseded text appears as follows:

§ 265.13 General waste analysis.

* * * * *

(b) * * *

(6) Where applicable, the methods which will be used to meet the additional waste analysis requirements for specific waste management methods as specified in §§ 265.193, 265.225, 265.252, 265.273, 265.314, 265.341, 265.375, 265.402 and 268.7 of this chapter.

* * * * *

§ 265.14 Security.

(a) The owner or operator must prevent the unknowing entry, and minimize the possibility for the unauthorized entry, of persons or livestock onto the active portion of his facility, *unless:*

(1) Physical contact with the waste, structures, or equipment with the active portion of the facility will not injure unknowing or unauthorized persons or livestock which may enter the active portion of a facility, and

(2) Disturbance of the waste or equipment, by the unknowing or unauthorized entry of persons or livestock onto the active portion of a facility, will not cause a violation of the requirements of this part.

(b) Unless exempt under paragraphs (a)(1) and (2) of this section, a facility must have:

(1) A 24-hour surveillance system (e.g., television monitoring or surveillance by guards of facility personnel) which continuously monitors and controls entry onto the active portion of the facility; or

(2)(i) An artificial or natural barrier (e.g., a fence in good repair or a fence combined with a cliff), which completely surrounds the active portion of the facility; and

(ii) A means to control entry, at all times, through the gates or other entrances to the active portion of the facility (e.g., an attendant, television monitors, locked entrance, or controlled roadway access to the facility).

[*Comment:* The requirements of paragraph (b) of this section are satisfied if the facility or plant within which the active portion is located itself has a surveillance system, or a barrier and a means to control entry, which complies with the requirements of paragraph (b)(1) or (2) of this section.]

(c) Unless exempt under paragraphs (a)(1) and (a)(2) of this section, a sign with the legend, "Danger—Unauthorized Personnel Keep Out," must be posted at each entrance to the active portion of a facility, and at other locations, in sufficient numbers to be seen from any approach to this active portion. The legend must be written in English and in any other language predominant in the area surrounding the facility (e.g., facilities in counties bordering the Canadian province of Quebec must post signs in French; facilities in counties bordering Mexico must post signs in Spanish), and must be legible from a distance of at least 25 feet. Existing signs with a legend other than "Danger—Unauthorized Personnel Keep Out" may be used if the legend on the sign indicates that only authorized personnel are allowed to enter the active portion, and that entry onto the active portion can be dangerous.

[*Comment:* See § 265.117(b) for discussion of security requirements at disposal facilities during the post-closure care period.]

§ 265.15 General inspection requirements.

(a) The owner or operator must inspect his facility for malfunctions and deterioration, operator errors, and discharges which may be causing—or may lead to: (1) Release of hazardous waste constituents to the environment or (2) a threat to human health. The owner or operator must conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

(b)(1) The owner or operator must develop and follow a written schedule for inspecting all monitoring equipment, safety and emergency equipment, security devices, and operating and structural equipment (such as dikes and sump pumps) that are important to preventing, detecting, or responding to environmental or human health hazards.

(2) He must keep this schedule at the facility.

(3) The schedule must identify the types of problems (e.g., malfunctions or deterioration) which are to be looked for during the inspection (e.g., inoperative sump pump, leaking fitting, eroding dike, etc.).

(4) The frequency of inspection may vary for the items on the schedule. However, it should be based on the rate of possible deterioration of the equipment and the probability of an environmental or human health incident if the deterioration, or malfunction, or any operator error goes undetected between inspections. Areas subject to spills, such as loading and unloading areas, must be inspected daily when in use. At a minimum, the inspection schedule must include the terms and frequencies called for in §§ 265.174, 265.193, 265.195, 265.226, 265.347, 265.377, 265.403, 265.1033, 265.1052, 265.1053, and 265.1058.

(c) The owner or operator must remedy any deterioration or malfunction of equipment or structures which the inspection reveals on a schedule which ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action must be taken immediately.

(d) The owner or operator must record inspections in an inspection log or summary. He must keep these records for at least three years from the date of inspection. At a minimum, these records must include the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions.

(Approved by the Office of Management and Budget under control number 2050-0013)

[45 FR 33232, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985; 51 FR 25478, July 14, 1986; 55 FR 25506, June 21, 1990]

Effective Date Note: At 55 FR 25506, June 21, 1990, in § 265.15, the last sentence of paragraph (b)(4) was revised, effective December 21, 1990. For the convenience of the user the superseded text appears as follows:

* * * * *

(b) * * *

(4) * * * At a minimum, the inspection schedule must include the items and frequencies called for in §§ 265.174, 265.193, 265.195, 265.226, 265.347, 265.377, and 265.403.

* * * * *

§ 265.16 Personnel training.

(a)(1) Facility personnel must successfully complete a program of classroom instruction or on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with the requirements of this part. The owner or operator must ensure that this program includes all the elements described in the document required under paragraph (d)(3) of this section.

(2) This program must be directed by a person trained in hazardous waste management procedures, and must include instruction which teaches facility personnel hazardous waste management procedures (including contingency plan implementation) relevant to the positions in which they are employed.

(3) At a minimum, the training program must be designed to ensure that
facility personnel are able to res
effectively to emergencies by fam
izing them with emergency p
dures, emergency equipment,
emergency systems, including w
applicable:

(i) Procedures for using, inspec
repairing, and replacing facility e
gency and monitoring equipment;

(ii) Key parameters for autom
waste feed cut-off systems;

(iii) Communications or alarm
tems;

(iv) Response to fires or explosio

(v) Response to ground-water
tamination incidents; and

(vi) Shutdown of operations.

(b) Facility personnel must suc
fuly complete the program require
paragraph (a) of this section wi
six months after the effective dat
these regulations or six months
the date of their employment or
signment to a facility, or to a new
tion at a facility, whichever is l
Employees hired after the effe
date of these regulations must
work in unsupervised positions
they have completed the trainin
quirements of paragraph (a) of
section.

(c) Facility personnel must take
in an annual review of the in
training required in paragraph (a
this section.

(d) The owner or operator
maintain the following documents
records at the facility:

(1) The job title for each positio
the facility related to hazardous w
management, and the name of the
ployee filling each job;

(2) A written job description
each position listed under paragr
(d)(1) of this Section. This descrip
may be consistent in its degree of s
ificity with descriptions for other s
lar positions in the same company
cation or bargaining unit, but must
clude the requisite skill, education
other qualifications, and duties of
cility personnel assigned to each p
tion;

(3) A written description of the t
and amount of both introductory
continuing training that will be g
to each person filling a position li
under paragraph (d)(1) of this sect

(4) Records that document that the training or job experience required under paragraphs (a), (b), and (c) of this section has been given to, and completed by, facility personnel.

(e) Training records on current personnel must be kept until closure of the facility. Training records on former employees must be kept for at least three years from the date the employee last worked at the facility. Personnel training racords may accompany personnel transferred within the same company.

(Approved by the Office of Management and Budget under control number 2050-0013)

[45 FR 33232, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985]

§ 265.17 General requirements for ignitable, reactive, or incompatible wastes.

(a) The owner or operator must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste must be separated and protected from sources of ignition or reaction including but not limited to: Open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions), and radiant heat. While ignitable or reactive waste is being handled, the owner or operator must confine smoking and open flame to specially designated locations. "No Smoking" signs must be conspicuously placed wherever there is a hazard from ignitable or reactive waste.

(b) Where specifically required by other sections of this part, the treatment, storage, or disposal of ignitable or reactive waste, and the mixture or commingling of incompatible wastes, or incompatible wastes and materials, must be conducted so that it does not:

(1) Generate extreme heat or pressure, fire or explosion, or violent reaction;

(2) Produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health;

(3) Produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions;

(4) Damage the structural integrity of the device or facility containing the waste; or

(5) Through other like means threaten human health or the environment.

§ 265.18 Location standards.

The placement of any hazardous waste in a salt dome, salt bed formation, underground mine or cave is prohibited, except for the Department of Energy Waste Isolation Pilot Project in New Mexico.

[50 FR 28749, July 15, 1985]

Subpart C—Preparedness and Prevention

§ 265.30 Applicability.

The regulations in this subpart apply to owners and operators of all hazardous waste facilities, except as § 265.1 provides otherwise.

§ 265.31 Maintenance and operation of facility.

Facilities must be maintained and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

§ 265.32 Required equipment.

All facilities must be equipped with the following, *unless* none of the hazards posed by waste handled at the facility could require a particular kind of equipment specified below:

(a) An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel;

(b) A device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or State or local emergency response teams;

(c) Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment; and

(d) Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems.

§ 265.33 Testing and maintenance of equipment.

All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.

§ 265.34 Access to communications or alarm system.

(a) Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee, *unless* such a device is not required under § 265.32.

(b) If there is ever just one employee on the premises while the facility is operating, he must have immediate access to a device, such as a telephone (immediately available at the scene of operation) or a hand-held two-way radio, capable of summoning external emergency assistance, *unless* such a device is not required under § 265.32.

§ 265.35 Required aisle space.

The owner or operator must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, *unless* aisle space is not needed for any of these purposes.

§ 265.36 [Reserved]

§ 265.37 Arrangements with local authorities.

(a) The owner or operator must attempt to make the following arrangements, as appropriate for the type of waste handled at his facility and the potential need for the services of these organizations:

(1) Arrangements to familiarize police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, entrances to roads inside the facility, and possible evacuation routes;

(2) Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority;

(3) Agreements with State emergency response teams, emergency response contractors, and equipment suppliers; and

(4) Arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

(b) Where State or local authorities decline to enter into such arrangements, the owner or operator must document the refusal in the operating record.

Subpart D—Contingency Plan and Emergency Procedures

§ 265.50 Applicability.

The regulations in this subpart apply to owners and operators of all hazardous waste facilities, except as § 265.1 provides otherwise.

§ 265.51 Purpose and implementation of contingency plan.

(a) Each owner or operator must have a contingency plan for his facility. The contingency plan must be designed to minimize hazards to human health or the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water.

(b) The provisions of the plan must be carried out immediately whenever there is a fire, explosion, or release of

ardous waste or hazardous waste
stituents which could threaten
nan health or the environment.

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)

FR 33232, May 19, 1980, as amended at
R 4514, Jan. 31, 1985]

5.52 Content of contingency plan.

) The contingency plan must de-
be the actions facility personnel
st take to comply with §§ 265.51
265.56 in response to fires, explo-
ns, or any unplanned sudden or
-sudden release of hazardous waste
nazardous waste constituents to air,
, or surface water at the facility.
) If the owner or operator has al-
dy prepared a Spill Prevention,
trol, and Countermeasures (SPCC)
n in accordance with Part 112 of
chapter, or Part 1510 of Chapter
r some other emergency or contin-
cy plan, he need only amend that
n to incorporate hazardous waste
nagement provisions that are suffi-
t to comply with the requirements
his part.
) The plan must describe arrange-
nts agreed to by local police depart-
nts, fire departments, hospitals,
tractors, and State and local emer-
cy response teams to coordinate
rgency services, pursuant to
5.37.
) The plan must list names, ad-
sses, and phone numbers (office
home) of all persons qualified to
as emergency coordinator (see
5.55), and this list must be kept up
late. Where more than one person
sted, one must be named as pri-
y emergency coordinator and
ers must be listed in the order in
ch they will assume responsibility
lternates.
) The plan must include a list of
emergency equipment at the facili-
such as fire extinguishing systems,
control equipment, communica-
s and alarm systems (internal and
rnal), and decontamination equip-
t), where this equipment is re-
ed. This list must be kept up to
. In addition, the plan must in-
le the location and a physical de-
ption of each item on the list, and
ief outline of its capabilities.

(f) The plan must include an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary. This plan must describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes (in cases where the primary routes could be blocked by releases of hazardous waste or fires).

(Approved by the Office of Management and Budget under control number 2050-0002)

[45 FR 33232, May 19, 1980, as amended at 46 FR 27480, May 20, 1981; 50 FR 4514, Jan. 31, 1985]

§ 265.53 Copies of contingency plan.

A copy of the contingency plan and all revisions to the plan must be:

(a) Maintained at the facility; and

(b) Submitted to all local police departments, fire departments, hospitals, and State and local emergency response teams that may be called upon to provide emergency services.

(Approved by the Office of Management and Budget under control number 2050-0002)

[45 FR 33232, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985]

§ 265.54 Amendment of contingency plan.

The contingency plan must be reviewed, and immediately amended, if necessary, whenever:

(a) Applicable regulations are revised;

(b) The plan fails in an emergency;

(c) The facility changes—in its design, construction, operation, maintenance, or other circumstances—in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes the response necessary in an emergency;

(d) The list of emergency coordinators changes; or

(e) The list of emergency equipment changes.

(Approved by the Office of Management and Budget under control number 2050-0002)

[45 FR 33232, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985]

§ 265.55 Emergency coordinator.

At all times, there must be at least one employee either on the facility premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all emergency response measures. This emergency coordinator must be thoroughly familiar with all aspects of the facility's contingency plan, all operations and activities at the facility, the location and characteristics of waste handled, the location of all records within the facility, and the facility layout. In addition, this person must have the authority to commit the resources needed to carry out the contingency plan.

[*Comment:* The emergency coordinator's responsibilities are more fully spelled out in § 265.56. Applicable responsibilities for the emergency coordinator vary, depending on factors such as type and variety of waste(s) handled by the facility, and type and complexity of the facility.]

§ 265.56 Emergency procedures.

(a) Whenever there is an imminent or actual emergency situation, the emergency coordinator (or his designee when the emergency coordinator is on call) must immediately:

(1) Activate internal facility alarms or communication systems, where applicable, to notify all facility personnel; and

(2) Notify appropriate State or local agencies with designated response roles if their help is needed.

(b) Whenever there is a release, fire, or explosion, the emergency coordinator must immediately identify the character, exact source, amount, and a real extent of any released materials. He may do this by observation or review of facility records or manifests and, if necessary, by chemical analysis.

(c) Concurrently, the emergency coordinator must assess possible hazards to human health or the environment that may result from the release, fire, or explosion. This assessment must consider both direct and indirect effects of the release, fire, or explosion (e.g., the effects of any toxic, irritating, or asphyxiating gases that are generated, or the effects of any hazardous surface water run-offs from water or chemical agents used to control fire and heat-induced explosions).

(d) If the emergency coordinator determines that the facility has had a release, fire, or explosion which could threaten human health, or the environment, outside the facility, he must report his findings as follows:

(1) If his assessment indicates that evacuation of local areas may be advisable, he must immediately notify appropriate local authorities. He must be available to help appropriate officials decide whether local areas should be evacuated; and

(2) He must immediately notify either the government official designated as the on-scene coordinator for that geographical area (in the applicable regional contingency plan under Part 1510 of this title), or the National Response Center (using their 24-hour toll free number 800/424-8802). The report must include:

(i) Name and telephone number of reporter;

(ii) Name and address of facility;

(iii) Time and type of incident (e.g., release, fire);

(iv) Name and quantity of material(s) involved, to the extent known;

(v) The extent of injuries, if any; and

(vi) The possible hazards to human health, or the environment, outside the facility.

(e) During an emergency, the emergency coordinator must take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous waste at the facility. These measures must include, where applicable, stopping processes and operations, collecting and containing released waste, and removing or isolating containers.

(f) If the facility stops operations in response to a fire, explosion or release, the emergency coordinator must monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, wherever this is appropriate.

(g) Immediately after an emergency, the emergency coordinator must provide for treating, storing, or disposing of recovered waste, contaminated soil or surface water, or any other material that results from a release, fire, or explosion at the facility.

[*Comment:* Unless the owner or operator can demonstrate, in accordance with § 261.3(c) or (d) of this chapter, that the recovered material is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of Parts 262, 263, and 265 of this chapter.]

(h) The emergency coordinator must ensure that, in the affected area(s) of the facility:

(1) No waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed; and

(2) All emergency equipment listed in the contingency plan is cleaned and fit for its intended use before operations are resumed.

(i) The owner or operator must notify the Regional Administrator, and appropriate State and local authorities, that the facility is in compliance with paragraph (h) of this section before operations are resumed in the affected area(s) of the facility.

(j) The owner or operator must note in the operating record the time, date, and details of any incident that requires implementing the contingency plan. Within 15 days after the incident, he must submit a written report on the incident to the Regional Administrator. The report must include:

(1) Name, address, and telephone number of the owner or operator;

(2) Name, address, and telephone number of the facility;

(3) Date, time, and type of incident e.g., fire, explosion);

(4) Name and quantity of material(s) involved;

(5) The extent of injuries, if any;

(6) An assessment of actual or potential hazards to human health or the environment, where this is applicable; and

(7) Estimated quantity and disposition of recovered material that resulted from the incident.

Approved by the Office of Management and Budget under control number 2050-0002)

45 FR 33232, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985]

Subpart E—Manifest System, Recordkeeping, and Reporting

§ 265.70 Applicability.

The regulations in this subpart apply to owners and operators of both on-site and off-site facilities, except as § 265.1 provides otherwise. Sections 265.71, 265.72, and 265.76 do not apply to owners and operators of on-site facilities that do not receive any hazardous waste from off-site sources.

§ 265.71 Use of manifest system.

(a) If a facility receives hazardous waste accompanied by a manifest, the owner or operator, or his agent, must:

(1) Sign and date each copy of the manifest to certify that the hazardous waste covered by the manifest was received;

(2) Note any significant discrepancies in the manifest (as defined in § 265.72(a)) on each copy of the manifest;

[*Comment:* The Agency does not intend that the owner or operator of a facility whose procedures under § 265.13(c) include waste analysis must perform that analysis before signing the manifest and giving it to the transporter. Section 265.72(b), however, requires reporting an unreconciled discrepancy discovered during later analysis.]

(3) Immediately give the transporter at least one copy of the signed manifest;

(4) Within 30 days after the delivery, send a copy of the manifest to the generator; and

(5) Retain at the facility a copy of each manifest for at least three years from the date of delivery.

(b) If a facility receives, from a rail or water (bulk shipment) transporter, hazardous waste which is accompanied by a shipping paper containing all the information required on the manifest (excluding the EPA identification numbers, generator's certification, and signatures), the owner or operator, or his agent, must:

(1) Sign and date each copy of the manifest or shipping paper (if the manifest has not been received) to certify that the hazardous waste covered by the manifest or shipping paper was received;

(2) Note any significant discrepancies (as defined in § 265.72(a)) in the manifest or shipping paper (if the manifest has not been received) on each copy of the manifest or shipping paper;

[*Comment:* The Agency does not intend that the owner or operator of a facility whose procedures under § 265.13(c) include waste analysis must perform that analysis before signing the shipping paper and giving it to the transporter. Section 265.72(b), however, requires reporting an unreconciled discrepancy discovered during later analysis.]

(3) Immediately give the rail or water (bulk shipment) transporter at least one copy of the manifest or shipping paper (if the manifest has not been received);

(4) Within 30 days after the delivery, send a copy of the signed and dated manifest to the generator; however, if the manifest has not been received within 30 days after delivery, the owner or operator, or his agent, must send a copy of the shipping paper signed and dated to the generator; and

[*Comment:* Section 262.23(c) of this chapter requires the generator to send three copies of the manifest to the facility when hazardous waste is sent by rail or water (bulk shipment).]

(5) Retain at the facility a copy of the manifest and shipping paper (if signed in lieu of the manifest at the time of delivery) for at least three years from the date of delivery.

(c) Whenever a shipment of hazardous waste is initiated from a facility, the owner or operator of that facility must comply with the requirements of Part 262 of this chapter.

[*Comment:* The provisions of § 262.34 are applicable to the on-site accumulation of hazardous wastes by generators. Therefore, the provisions of § 262.34 only apply to owners or operators who are shipping hazardous waste which they generated at that facility.]

(Approved by the Office of Management and Budget under control number 2050-0039)

[45 FR 33232, May 19, 1980, as amended at 45 FR 86970, 86974, Dec. 31, 1980; 50 FR 4514, Jan. 31, 1985]

§ 265.72 Manifest discrepancies.

(a) Manifest discrepancies are differences between the quantity or type of hazardous waste designated on the manifest or shipping paper, and the quantity or type of hazardous waste a facility actually receives. Significant discrepancies in quantity are: (1) For bulk waste, variations greater than 10 percent in weight, and (2) for batch waste, any variation in piece count, such as a discrepancy of one drum in a truckload. Significant discrepancies in type are obvious differences which can be discovered by inspection or waste analysis, such as waste solvent substituted for waste acid, or toxic constituents not reported on the manifest or shipping paper.

(b) Upon discovering a significant discrepancy, the owner or operator must attempt to reconcile the discrepancy with the waste generator or transporter (e.g., with telephone conversations). If the discrepancy is not resolved within 15 days after receiving the waste, the owner or operator must immediately submit to the Regional Administrator a letter describing the discrepancy and attempts to reconcile it, and a copy of the manifest or shipping paper at issue.

(Approved by the Office of Management and Budget under control number 2050-0039)

[45 FR 33232, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985]

§ 265.73 Operating record.

(a) The owner or operator must keep a written operating record at his facility.

(b) The following information must be recorded, as it becomes available, and maintained in the operating record until closure of the facility:

(1) A description and the quantity of each hazardous waste received, and the method(s) and date(s) of its treatment, storage, or disposal at the facility as required by Appendix I;

(2) The location of each hazardous waste within the facility and the quantity at each location. For disposal facilities, the location and quantity of each hazardous waste must be recorded on a map or diagram of each cell or disposal area. For all facilities, this in-

formation must include cross-references to specific manifest document numbers, if the waste was accompanied by a manifest;

[*Comment:* See §§ 265.119, 265.279, and 265.309 for related requirements.]

(3) Records and results of waste analyses and trial tests performed as specified in §§ 265.13, 265.193, 265.225, 265.252, 265.273, 265.314, 265.341, 265.375, 265.402, 265.1034, 265.1063, 268.4(a), and 268.7 of this chapter.

(4) Summary reports and details of all incidents that require implementing the contingency plan as specified in § 265.56(j);

(5) Records and results of inspections as required by § 265.15(d) (except these data need be kept only three years);

(6) Monitoring, testing or analytical data when required by §§ 265.90, 265.94, 265.191, 265.193, 265.195, 265.276, 265.278, 265.280(d)(1), 265.347, 265.377, 265.1034(c)-265.1034(f), 265.1035, 265.1063(d)-265.1063(i), and 265.1064.

[*Comment:* As required by § 265.94, monitoring data at disposal facilities must be kept throughout the post-closure period.]

(7) All closure cost estimates under § 265.142 and, for disposal facilities, all post-closure cost estimates under § 265.144.

(8) Records of the quantities (and date of placement) for each shipment of hazardous waste placed in land disposal units under an extension to the effective date of any land disposal restriction granted pursuant to § 268.5, monitoring data required pursuant to a petition under § 268.6, or a certification under § 268.8, and the applicable notice required by a generator under § 268.7(a).

(9) For an off-site treatment facility, a copy of the notice, and the certification and demonstration if applicable, required by the generator or the owner or operator under § 268.7 or § 268.8;

(10) For an on-site treatment facility, the information contained in the notice (except the manifest number), and the certification and demonstration if applicable, required by the generator or the owner or operator under § 268.7 or § 268.8;

(11) For an off-site land disposal facility, a copy of the notice, and the certification and demonstration if applicable, required by the generator or the owner or operator of a treatment facility under § 268.7 or § 268.8;

(12) For an on-site land disposal facility, the information contained in the notice (except the manifest number), and the certification and demonstration if applicable, required by the generator or the owner or operator of a treatment facility under § 268.7 or § 268.8.

(13) For an off-site storage facility, a copy of the notice, and the certification and demonstration if applicable, required by the generator or the owner or operator under § 268.7 or § 268.8; and

(14) For an on-site storage facility, the information contained in the notice (except the manifest number), and the certification and demonstration if applicable, required by the generator or the owner or operator of a treatment facility under § 268.7 or § 268.8.

(Approved by Office of Management and Budget under control numbers 2050-0038, and 2040-0042)

[45 FR 33232, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985; 50 FR 18374, Apr. 30, 1985; 51 FR 40638, Nov. 7, 1986; 53 FR 31211, Aug. 17, 1988; 54 FR 26648, June 23, 1989; 55 FR 25507, June 21, 1990]

EFFECTIVE DATE NOTE: At 55 FR 25507, June 21, 1990, in § 265.73, paragraphs (b)(3) and (6) were revised, effective December 21, 1990. For the convenience of the user the superseded text appears as follows:

§ 265.73 Operating record.

* * * * *

(b) * * *

(3) Records and results of waste analysis and trial tests performed as specified in §§ 265.13, 265.193, 265.225, 265.252, 265.273, 265.314, 265.341, 265.375, 265.402, 268.4(a) and 268.7 of this chapter.

* * * * *

(6) Monitoring, testing, or analytical data when required by §§ 265.90, 265.94, 265.191,

265.193, 265.195, 265.276, 265.278, 265.280(d)(1), 265.347, and 265.377; and

* * * * *

§ 265.74 Availability, retention, and disposition of records.

(a) All records, including plans, required under this part must be furnished upon request, and made available at all reasonable times for inspection, by any officer, employee, or representative of EPA who is duly designated by the Administrator.

(b) The retention period for all records required under this part is extended automatically during the course of any unresolved enforcement action regarding the facility or as requested by the Administrator.

(c) A copy of records of waste disposal locations and quantities under § 265.73(b)(2) must be submitted to the Regional Administrator and local land authority upon closure of the facility (see § 265.119).

(Approved by the Office of Management and Budget under control number 2050-0013)

[45 FR 33232, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985]

§ 265.75 Biennial report.

The owner or operator must prepare and submit a single copy of a biennial report to the Regional Administrator by March 1 of each even numbered year. The biennial report must be submitted on EPA Form 8700-13B. The report must cover facility activities during the previous calendar year and must include the following information:

(a) The EPA identification number, name, and address of the facility;

(b) The calendar year covered by the report;

(c) For off-site facilities, the EPA identification number of each hazardous waste generator from which the facility received a hazardous waste during the year; for imported shipments, the report must give the name and address of the foreign generator;

(d) A description and the quantity of each hazardous waste the facility received during the year. For off-site facilities, this information must be listed by EPA identification number of each generator;

(e) The method of treatment, storage, or disposal for each hazardous waste;

(f) Monitoring data under § 265.94(a)(2)(ii) and (iii), and (b)(2), where required;

(g) The most recent closure cost estimate under § 265.142, and, for disposal facilities, the most recent post-closure cost estimate under § 265.144; and

(h) For generators who treat, store, or dispose of hazardous waste on-site, a description of the efforts undertaken during the year to reduce the volume and toxicity of waste generated.

(i) For generators who treat, store, or dispose of hazardous waste on-site, a description of the changes in volume and toxicity of waste actually achieved during the year in comparison to previous years to the extent such information is available for the years prior to 1984.

(j) The certification signed by the owner or operator of the facility or his authorized representative.

(Approved by the Office of Management and Budget under control number 2050-0024)

[45 FR 33232, May 19, 1980, as amended at 48 FR 3982, Jan. 28, 1983; 50 FR 4514, Jan. 31, 1985; 51 FR 28556, Aug. 8, 1986]

§ 265.76 Unmanifested waste report.

If a facility accepts for treatment, storage, or disposal any hazardous waste from an off-site source without an accompanying manifest, or without an accompanying shipping paper as described in § 263.20(e)(2) of this chapter, and if the waste is not excluded from the manifest requirement by § 261.5 of this chapter, then the owner or operator must prepare and submit a single copy of a report to the Regional Administrator within fifteen days after receiving the waste. The unmanifested waste report must be submitted on EPA form 8700-13B. Such report must be designated 'Unmanifested Waste Report' and include the following information:

(a) The EPA identification number, name, and address of the facility;

(b) The date the facility received the waste;

(c) The EPA identification number, name, and address of the generator and the transporter, if available;

(d) A description and the quantity of each unmanifested hazardous waste the facility received;

(e) The method of treatment, storage, or disposal for each hazardous waste;

(f) The certification signed by the owner or operator of the facility or his authorized representative; and

(g) A brief explanation of why the waste was unmanifested, if known.

[*Comment:* Small quantities of hazardous waste are excluded from regulation under this part and do not require a manifest. Where a facility receives unmanifested hazardous wastes, the Agency suggests that the owner or operator obtain from each generator a certification that the waste qualifies for exclusion. Otherwise, the Agency suggests that the owner or operator file an unmanifested waste report for the hazardous waste movement.]

(Approved by the Office of Management and Budget under control number 2050-0013)

[45 FR 33232, May 19, 1980, as amended at 48 FR 3982, Jan. 28, 1983; 50 FR 4514, Jan. 31, 1985]

§ 265.77 Additional reports.

In addition to submitting the biennial report and unmanifested waste reports described in §§ 265.75 and 265.76, the owner or operator must also report to the Regional Administrator:

(a) Releases, fires, and explosions as specified in § 265.56(j);

(b) Ground-water contamination and monitoring data as specified in §§ 265.93 and 265.94; and

(c) Facility closure as specified in § 265.115.

(d) As otherwise required by Subparts AA and BB.

[45 FR 33232, May 19, 1980, as amended at 48 FR 3982, Jan. 28, 1983; 55 FR 25507, June 21, 1990]

Effective Date Note: At 55 FR 25507, June 21, 1990, in § 265.77, paragraph (d) was added, effective December 21, 1990.

Subpart F—Ground-Water Monitoring

§ 265.90 Applicability.

(a) Within one year after the effective date of these regulations, the owner or operator of a surface impoundment, landfill, or land treatment facility which is used to manage hazardous waste must implement a ground-water monitoring program capable of determining the facility's impact on the quality of ground water in the uppermost aquifer underlying the facility, except as § 265.1 and paragraph (c) of this section provide otherwise.

(b) Except as paragraphs (c) and (d) of this section provide otherwise, the owner or operator must install, operate, and maintain a ground-water monitoring system which meets the requirements of § 265.91, and must comply with §§ 265.92 through 265.94. This ground-water monitoring program must be carried out during the active life of the facility, and for disposal facilities, during the post-closure care period as well.

(c) All or part of the ground-water monitoring requirements of this subpart may be waived if the owner or operator can demonstrate that there is a low potential for migration of hazardous waste or hazardous waste constituents from the facility via the uppermost aquifer to water supply wells (domestic, industrial, or agricultural) or to surface water. This demonstration must be in writing, and must be kept at the facility. This demonstration must be certified by a qualified geologist or geotechnical engineer and must establish the following:

(1) The potential for migration of hazardous waste or hazardous waste constituents from the facility to the uppermost aquifer, by an evaluation of:

(i) A water balance of precipitation, evapotranspiration, runoff, and infiltration; and

(ii) Unsaturated zone characteristics (i.e., geologic materials, physical properties, and depth to ground water); and

(2) The potential for hazardous waste or hazardous waste constituents which enter the uppermost aquifer to migrate to a water supply well or surface water, by an evaluation of:

(i) Saturated zone characteristics (i.e., geologic materials, physical properties, and rate of ground-water flow); and

(ii) The proximity of the facility to water supply wells or surface water.

(d) If an owner or operator assumes (or knows) that ground-water monitoring of indicator parameters in accordance with §§ 265.91 and 265.92 would show statistically significant increases (or decreases in the case of pH) when evaluated under § 265.93(b), he may, install, operate, and maintain an alternate ground-water monitoring system (other than the one described in §§ 265.91 and 265.92). If the owner or operator decides to use an alternate ground-water monitoring system he must:

(1) Within one year after the effective date of these regulations, submit to the Regional Administrator a specific plan, certified by a qualified geologist or geotechnical engineer, which satisfies the requirements of § 265.93(d)(3), for an alternate ground-water monitoring system;

(2) Not later than one year after the effective date of these regulations, initiate the determinations specified in § 265.93(d)(4);

(3) Prepare and submit a written report in accordance with § 265.93(d)(5);

(4) Continue to make the determinations specified in § 265.93(d)(4) on a quarterly basis until final closure of the facility; and

(5) Comply with the recordkeeping and reporting requirements in § 265.94(b).

(e) The ground-water monitoring requirements of this subpart may be waived with respect to any surface impoundment that (1) Is used to neutralize wastes which are hazardous solely because they exhibit the corrosivity characteristic under § 261.22 of this chapter or are listed as hazardous wastes in Subpart D of Part 261 of this chapter only for this reason, and (2) contains no other hazardous wastes, if the owner or operator can demonstrate that there is no potential for migration of hazardous wastes from the impoundment. The demonstration must establish, based upon consideration of the characteristics of the wastes and the impoundment, that the corrosive wastes will be neutralized to the extent that they no longer meet the corrosivity characteristic before they can migrate out of the impoundment. The demonstration must be i writing and must be certified by qualified professional.

(Approved by the Office of Managemen and Budget under control number 2050 0033)

[45 FR 33232, May 19, 1980, as amended 47 FR 1255, Jan. 11, 1982; 50 FR 4514, Jan 31, 1985]

§ 265.91 Ground-water monitoring system

(a) A ground-water monitoring system must be capable of yielding ground-water samples for analysis and must consist of:

(1) Monitoring wells (at least one installed hydraulically upgradient (i.e. in the direction of increasing static head) from the limit of the waste management area. Their number, locations, and depths must be sufficient to yield ground-water samples that are:

(i) Representative of background ground-water quality in the uppermost aquifer near the facility; and

(ii) Not affected by the facility; and

(2) Monitoring wells (at least three installed hydraulically downgradient (i.e., in the direction of decreasing static head) at the limit of the waste management area. Their number, locations, and depths must ensure that they immediately detect any statistically significant amounts of hazardous waste or hazardous waste constituents that migrate from the waste management area to the uppermost aquifer.

(b) Separate monitoring systems for each waste management component of a facility are not required provided that provisions for sampling upgradient and downgradient water quality will detect any discharge from the waste management area.

(1) In the case of a facility consisting of only one surface impoundment, landfill, or land treatment area, the waste management area is described by the waste boundary (perimeter).

(2) In the case of a facility consisting of more than one surface impoundment, landfill, or land treatment area, the waste management area is described by an imaginary boundary line which circumscribes the several waste management components.

(c) All monitoring wells must be cased in a manner that maintains the integrity of the monitoring well bore hole. This casing must be screened or perforated, and packed with gravel or sand where necessary, to enable sample collection at depths where appropriate aquifer flow zones exist. The annular space (i.e., the space between the bore hole and well casing) above the sampling depth must be sealed with a suitable material (e.g., cement grout or bentonite slurry) to prevent contamination of samples and the ground water.

(Approved by the Office of Management and Budget under control number 2050-0033)

[45 FR 33232, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985]

§ 265.92 Sampling and analysis.

(a) The owner or operator must obtain and analyze samples from the installed ground-water monitoring system. The owner or operator must develop and follow a ground-water sampling and analysis plan. He must keep this plan at the facility. The plan must include procedures and techniques for:

(1) Sample collection;

(2) Sample preservation and shipment;

(3) Analytical procedures; and

(4) Chain of custody control.

[*Comment:* See "Procedures Manual For Ground-water Monitoring At Solid Waste Disposal Facilities," EPA-530/SW-611, August 1977 and "Methods for Chemical Analysis of Water and Wastes," EPA-600/4-79-020, March 1979 for discussions of sampling and analysis procedures.]

(b) The owner or operator must determine the concentration or value of the following parameters in ground-water samples in accordance with paragraphs (c) and (d) of this section:

(1) Parameters characterizing the suitability of the ground water as a drinking water supply, as specified in Appendix III.

(2) Parameters establishing ground-water quality:

(i) Chloride

(ii) Iron

(iii) Manganese

(iv) Phenols

(v) Sodium

(vi) Sulfate

[*Comment:* These parameters are to be used as a basis for comparison in the event a ground-water quality assessment is required under § 265.93(d).]

(3) Parameters used as indicators of ground-water contamination:

(i) pH

(ii) Specific Conductance

(iii) Total Organic Carbon

(iv) Total Organic Halogen

(c)(1) For all monitoring wells, the owner or operator must establish initial background concentrations or values of all parameters specified in paragraph (b) of this section. He must do this quarterly for one year.

(2) For each of the indicator parameters specified in paragraph (b)(3) of this section, at least four replicate measurements must be obtained for each sample and the initial background arithmetic mean and variance must be determined by pooling the replicate measurements for the respective parameter concentrations or values in samples obtained from upgradient wells during the first year.

(d) After the first year, all monitoring wells must be sampled and the samples analyzed with the following frequencies:

(1) Samples collected to establish ground-water quality must be obtained and analyzed for the parameters specified in paragraph (b)(2) of this section at least annually.

(2) Samples collected to indicate ground-water contamination must be obtained and analyzed for the parameters specified in paragraph (b)(3) of this section at least semi-annually.

(e) Elevation of the ground-water surface at each monitoring well must be determined each time a sample is obtained.

(Approved by the Office of Management and Budget under control number 2050-0033)

[45 FR 33232, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985]

§ 265.93 Preparation, evaluation, and response.

(a) Within one year after the effective date of these regulations, the owner or operator must prepare an *outline* of a ground-water quality assessment program. The outline must describe a more comprehensive ground-water monitoring program (than that described in §§ 265.91 and 265.92) capable of determining:

(1) Whether hazardous waste or hazardous waste constituents have entered the ground water;

(2) The rate and extent of migration of hazardous waste or hazardous waste constituents in the ground water; and

(3) The concentrations of hazardous waste or hazardous waste constituents in the ground water.

(b) For each indicator parameter specified in § 265.92(b)(3), the owner or operator must calculate the arithmetic mean and variance, based on at least four replicate measurements on each sample, for each well monitored in accordance with § 265.92(d)(2), and compare these results with its initial background arithmetic mean. The comparison must consider individually each of the wells in the monitoring system, and must use the Student's t-test at the 0.01 level of significance (see Appendix IV) to determine statistically significant increases (and decreases, in the case of pH) over initial background.

(c)(1) If the comparisons for the *upgradient* wells made under paragraph (b) of this section show a significant increase (or pH decrease), the owner or operator must submit this information in accordance with § 265.94(a)(2)(ii).

(2) If the comparisons for *downgradient* wells made under paragraph (b) of this section show a significant increase (or pH decrease), the owner or operator must then immediately obtain additional ground-water samples from those downgradient wells where a significant difference was detected, split the samples in two, and obtain analyses of all additional samples to determine whether the significant difference was a result of laboratory error.

(d)(1) If the analyses performed under paragraph (c)(2) of this section confirm the significant increase (or pH decrease), the owner or operator must provide written notice to the Regional Administrator—within seven days of the date of such confirmation—that the facility may be affecting ground-water quality.

(2) Within 15 days after the notification under paragraph (d)(1) of this section, the owner or operator must develop and submit to the Regional Administrator a specific plan, based on the outline required under paragraph (a) of this section and certified by a qualified geologist or geotechnical engineer, for a ground-water quality assessment program at the facility.

(3) The plan to be submitted under § 265.90(d)(1) or paragraph (d)(2) of this section must specify:

(i) The number, location, and depth of wells;

(ii) Sampling and analytical methods for those hazardous wastes or hazardous waste constituents in the facility;

(iii) Evaluation procedures, including any use of previously-gathered ground-water quality information; and

(iv) A schedule of implementation.

(4) The owner or operator must implement the ground-water quality assessment plan which satisfies the requirements of paragraph (d)(3) of this section, and, at a minimum, determine:

(i) The rate and extent of migration of the hazardous waste or hazardous waste constituents in the ground water; and

(ii) The concentrations of the hazardous waste or hazardous waste constituents in the ground water.

(5) The owner or operator must make his first determination under paragraph (d)(4) of this section as soon as technically feasible, and within 15 days after that determination, submit to the Regional Administrator a written report containing an assessment of the ground-water quality.

(6) If the owner or operator determines, based on the results of the first determination under paragraph (d)(4) of this section, that no hazardous waste or hazardous waste constituents from the facility have entered the ground water, then he may reinstate the indicator evaluation program described in § 265.92 and paragraph (b) of this section. If the owner or operator reinstates the indicator evaluation program, he must so notify the Regional Administrator in the report

submitted under paragraph (d)(5) of this section.

(7) If the owner or operator determines, based on the first determination under paragraph (d)(4) of this section, that hazardous waste or hazardous waste constituents from the facility have entered the ground water, then he:

(i) Must continue to make the determinations required under paragraph (d)(4) of this section on a quarterly basis until final closure of the facility, if the ground-water quality assessment plan was implemented prior to final closure of the facility; or

(ii) May cease to make the determinations required under paragraph (d)(4) of this section, if the ground-water quality assessment plan was implemented during the post-closure care period.

(e) Notwithstanding any other provision of this subpart, any ground-water quality assessment to satisfy the requirements of § 265.93(d)(4) which is initiated prior to final closure of the facility must be completed and reported in accordance with § 265.93(d)(5).

(f) Unless the ground water is monitored to satisfy the requirements of § 265.93(d)(4), at least annually the owner or operator must evaluate the data on ground-water surface elevations obtained under § 265.92(e) to determine whether the requirements under § 265.91(a) for locating the monitoring wells continues to be satisfied. If the evaluation shows that § 265.91(a) is no longer satisfied, the owner or operator must immediately modify the number, location, or depth of the monitoring wells to bring the ground-water monitoring system into compliance with this requirement.

(Approved by the Office of Management and Budget under control number 2050-0033)

[45 FR 33232, May 19, 1980, as amended at 50 FR 4514, Jan. 31, 1985]

§ 265.94 Recordkeeping and reporting.

(a) Unless the ground water is monitored to satisfy the requirements of § 265.93(d)(4), the owner or operator must:

(1) Keep records of the analyses required in § 265.92(c) and (d), the associated ground-water surface elevations required in § 265.92(e), and the evaluations required in § 265.93(b) throughout the active life of the facility, and, for disposal facilities, throughout the post-closure care period as well; and

(2) Report the following ground-water monitoring information to the Regional Administrator:

(i) During the first year when initial background concentrations are being established for the facility: concentrations or values of the parameters listed in § 265.92(b)(1) for each ground-water monitoring well within 15 days after completing each quarterly analysis. The owner or operator must separately identify for each monitoring well any parameters whose concentration or value has been found to exceed the maximum contaminant levels listed in Appendix III.

(ii) Annually: Concentrations or values of the parameters listed in § 265.92(b)(3) for each ground-water monitoring well, along with the required evaluations for these parameters under § 265.93(b). The owner or operator must separately identify any significant differences from initial background found in the upgradient wells, in accordance with § 265.93(c)(1). During the active life of the facility, this information must be submitted no later than March 1 following each calendar year.

(iii) No later than March 1 following each calendar year: Results of the evaluations of ground-water surface elevations under § 265.93(f), and a description of the response to that evaluation, where applicable.

(b) If the ground water is monitored to satisfy the requirements of § 265.93(d)(4), the owner or operator must:

(1) Keep records of the analyses and evaluations specified in the plan, which satisfies the requirements of § 265.93(d)(3), throughout the active life of the facility, and, for disposal facilities, throughout the post-closure care period as well; and

(2) Annually, until final closure of the facility, submit to the Regional Administrator a report containing the results of his or her ground-water quality assessment program which includes, but is not limited to, the calculated (or measured) rate of migration

of hazardous waste or hazardous waste constituents in the ground water during the reporting period. This information must be submitted no later than March 1 following each calendar year.

(Approved by the Office of Management and Budget under control number 2050-0033)

[45 FR 33232, May 19, 1980, as amended at 48 FR 3982, Jan. 28, 1983; 50 FR 4514, Jan. 31, 1985]

Subpart G—Closure and Post-Closure

SOURCE: 51 FR 16451, May 2, 1986, unless otherwise noted.

§ 265.110 Applicability.

Except as § 265.1 provides otherwise:

(a) Sections 265.111 through 265.115 (which concern closure) apply to the owners and operators of all hazardous waste management facilities; and

(b) Sections 265.116 through 265.120 (which concern post-closure care) apply to the owners and operators of:

(1) All hazardous waste disposal facilities; and

(2) Waste piles and surface impoundments for which the owner or operator intends to remove the wastes at closure to the extent that these sections are made applicable to such facilities in § 265.228 or § 265.258; and

(3) Tank systems that are required under § 265.197 to meet requirements for landfills.

[51 FR 16451, May 2, 1986, as amended at 51 FR 25479, July 14, 1986; 53 FR 34086, Sept. 2, 1988]

§ 265.111 Closure performance standard.

The owner or operator must close the facility in a manner that:

(a) Minimizes the need for further maintenance, and

(b) Controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste, hazardous constituents, leachate, contaminated run-off, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere, and

(c) Complies with the closure requirements of this subpart including, but not limited to, the requirements of §§ 265.197, 265.228, 265.258, 265 265.310, 265.351, 265.381 and 265.40

§ 265.112 Closure plan; amendment plan.

(a) *Written plan.* By May 19, 1 the owner or operator of a hazard waste management facility must h a written closure plan. Until final sure is completed and certified in cordance with § 265.115, a copy of most current plan must be furnis to the Regional Administrator u request, including request by mai addition, for facilities without proved plans, it must also be prov during site inspections, on the da inspection, to any officer, employe representative of the Agency wh duly designated by the Administra

(b) *Content of plan.* The plan n identify steps necessary to perf partial and/or final closure of the cility at any point during its ac life. The closure plan must include least:

(1) A description of how each ardous waste management unit at facility will be closed in accord with § 265.111; and

(2) A description of how final clo of the facility will be conducted in cordance with § 265.111. The desc tion must identify the maxim extent of the operation which wil unclosed during the active life of facility; and

(3) An estimate of the maximum ventory of hazardous wastes ever site over the active life of the fac and a detailed description of the m ods to be used during partial and f closure, including, but not limite methods for removing, transport treating, storing or disposing of hazardous waste, identification of the type(s) of off-site hazardous w management unit(s) to be used, if plicable; and

(4) A detailed description of steps needed to remove or deconta nate all hazardous waste residues contaminated containment sys components, equipment, structu and soils during partial and final sure including, but not limited to, cedures for cleaning equipment and moving contaminated soils, meth

for sampling and testing surrounding soils, and criteria for determining the extent of decontamination necessary to satisfy the closure performance standard; and

(5) A detailed description of other activities necessary during the partial and final closure period to ensure that all partial closures and final closure satisfy the closure performance standards, including, but not limited to, ground-water monitoring, leachate collection, and run-on and run-off control; and

(6) A schedule for closure of each hazardous waste management unit and for final closure of the facility. The schedule must include, at a minimum, the total time required to close each hazardous waste management unit and the time required for intervening closure activities which will allow tracking of the progress of partial and final closure. (For example, in the case of a landfill unit, estimates of the time required to treat or dispose of all hazardous waste inventory and of the time required to place a final cover must be included.); and

(7) An estimate of the expected year of final closure for facilities that use trust funds to demonstrate financial assurance under § 265.143 or § 265.145 and whose remaining operating life is less than twenty years, and for facilities without approved closure plans.

(c) *Amendment of plan.* The owner or operator may amend the closure plan at any time prior to the notification of partial or final closure of the facility. An owner or operator with an approved closure plan must submit a written request to the Regional Administrator to authorize a change to the approved closure plan. The written request must include a copy of the amended closure plan for approval by the Regional Administrator.

(1) The owner or operator must amend the closure plan whenever:

(i) Changes in operating plans or facility design affect the closure plan, or

(ii) There is a change in the expected year of closure, if applicable, or

(iii) In conducting partial or final closure activities, unexpected events require a modification of the closure plan.

(2) The owner or operator must amend the closure plan at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected event has occurred which has affected the closure plan. If an unexpected event occurs during the partial or final closure period, the owner or operator must amend the closure plan no later than 30 days after the unexpected event. These provisions also apply to owners or operators of surface impoundments and waste piles who intended to remove all hazardous wastes at closure, but are required to close as landfills in accordance with § 265.310.

(3) An owner or operator with an approved closure plan must submit the modified plan to the Regional Administrator at least 60 days prior to the proposed change in facility design or operation, or no more than 60 days after an unexpected event has occurred which has affected the closure plan. If an unexpected event has occurred during the partial or final closure period, the owner or operator must submit the modified plan no more than 30 days after the unexpected event. These provisions also apply to owners or operators of surface impoundments and waste piles who intended to remove all hazardous wastes at closure but are required to close as landfills in accordance with § 265.310. If the amendment to the plan is a Class 2 or 3 modification according to the criteria in § 270.42, the modification to the plan will be approved according to the procedures in § 265.112(d)(4).

(4) The Regional Administrator may request modifications to the plan under the conditions described in paragraph (c)(1) of this section. An owner or operator with an approved closure plan must submit the modified plan within 60 days of the request from the Regional Administrator, or within 30 days if the unexpected event occurs during partial or final closure. If the amendment is considered a Class 2 or 3 modification according to the criteria in § 270.42, the modification to the plan will be approved in accordance with the procedures in § 265.112(d)(4).

(d) *Notification of partial closure and final closure.* (1) The owner or operator must submit the closure plan to the Regional Administrator at least 180 days prior to the date on which he expects to begin closure of the first surface impoundment, waste pile, land treatment, or landfill unit, or final closure if it involves such a unit, whichever is earlier. The owner or operator must submit the closure plan to the Regional Administrator at least 45 days prior to the date on which he expects to begin final closure of a facility with only tanks, container storage, or incinerator units. Owners or operators with approved closure plans must notify the Regional Administrator in writing at least 60 days prior to the date on which he expects to begin closure of a surface impoundment, waste pile, landfill, or land treatment unit, or final closure of a facility involving such a unit. Owners and operators with approved closure plans must notify the Regional Administrator in writing at least 45 days prior to the date on which he expects to begin final closure of a facility with only tanks, container storage, or incinerator units.

(2) The date when he "expects to begin closure" must be either:

(i) Within 30 days after the date on which any hazardous waste management unit receives the known final volume of hazardous wastes or, if there is a reasonable possibility that the hazardous waste management unit will receive additional hazardous wastes, no later than one year after the date on which the unit received the most recent volume of hazardous wastes. If the owner or operator of a hazardous waste management unit can demonstrate to the Regional Administrator that the hazardous waste management unit or facility has the capacity to receive additional hazardous wastes and he has taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all applicable interim status requirements, the Regional Administrator may approve an extension to this one-year limit; or

(ii) For units meeting the requirements of § 265.113(d), no later than 30 days after the date on which the hazardous waste management unit receives the known final volume of non-hazardous wastes, or if there is a reasonable possibility that the hazardous waste management unit will receive additional non-hazardous wastes, no later than one year after the date on which the unit received the most recent volume of non-hazardous wastes. If the owner or operator can demonstrate to the Regional Administrator that the hazardous waste management unit has the capacity to receive additional non-hazardous wastes and he has taken, and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all applicable interim status requirements, the Regional Administrator may approve an extension to this one-year limit.

(3) The owner or operator must submit his closure plan to the Regional Administrator no later than 15 days after:

(i) Termination of interim status except when a permit is issued simultaneously with termination of interim status; or

(ii) Issuance of a judicial decree or final order under section 3008 of RCRA to cease receiving hazardous wastes or close.

(4) The Regional Administrator will provide the owner or operator and the public, through a newspaper notice the opportunity to submit written comments on the plan and request modifications to the plan no later than 30 days from the date of the notice. He will also, in response to a request or at his own discretion, hold a public hearing whenever such a hearing might clarify one or more issues concerning a closure plan. The Regional Administrator will give public notice of the hearing at least 30 days before it occurs. (Public notice of the hearing may be given at the same time as notice of the opportunity for the public to submit written comments and the two notices may be combined. The Regional Administrator will approve, modify, or disapprove the plan within 90 days of its receipt. If the Regional Administrator does not approve the plan he shall provide the owner or operator with a detailed written state-

ent of reasons for the refusal and ne owner or operator must modify ne plan or submit a new plan for ap- roval within 30 days after receiving ich written statement. The Regional dministrator will approve or modify nis plan in writing within 60 days. If ne Regional Administrator modifies ne plan, this modified plan becomes ne approved closure plan. The Re- ional Administrator must assure that ne approved plan is consistent with § 265.111 through 265.115 and the ap- licable requirements of §§ 265.90 *et* q., 265.197, 265.228, 265,258, 265.280, 5.310, 265.351, 265.381, and 265.404. copy of the modified plan with a de- iled statement of reasons for the odifications must be mailed to the wner or operator.

(e) *Removal of wastes and decon- mination or dismantling of equip- ent.* Nothing in this section shall reclude the owner or operator from emoving hazardous wastes and decon- minating or dismantling equipment accordance with the approved par- al or final closure plan at any time efore or after notification of partial final closure.

1 FR 16451, May 2, 1986, as amended at 54 R 37935, Sept. 28, 1988; 54 FR 33396, Aug. , 1989]

265.113 Closure; time allowed for closure.

(a) Within 90 days after receiving e final volume of hazardous wastes, the final volume of non-hazardous astes if the owner or operator com- ies with all applicable requirements paragraphs (d) and (e) of this sec- on, at a hazardous waste manage- ent unit or facility, or within 90 days ter approval of the closure plan, hichever is later, the owner or opera- r must treat, remove from the unit facility, or dispose of on-site, all zardous wastes in accordance with e approved closure plan. The Re- onal Administrator may approve a nger period if the owner or operator monstrates that:

(1)(i) The activities required to mply with this paragraph will, of ne- ssity, take longer than 90 days to mplete; or

(ii)(A) The hazardous waste manage- ent unit or facility has the capacity to receive additional hazardous wastes, or has the capacity to receive non-hazardous wastes if the facility owner or operator complies with paragraphs (d) and (e) of this section; and

(B) There is a reasonable likelihood that he or another person will recommence operation of the hazardous waste management unit or the facility within one year; and

(C) Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site; and

(2) He has taken and will continue to take all steps to prevent threats to human health and the environment, including compliance with all applicable interim status requirements.

(b) The owner or operator must complete partial and final closure activities in accordance with the approved closure plan and within 180 days after receiving the final volume of hazardous wastes, or the final volume of nonhazardous wastes if the owner or operator complies with all applicable requirements in paragraphs (d) and (e) of this section, at the hazardous waste management unit or facility, or 180 days after approval of the closure plan, if that is later. The Regional Administrator may approve an extension to the closure period if the owner or operator demonstrates that:

(1) (i) The partial or final closure activities will, of necessity, take longer than 180 days to complete; or

(ii)(A) The hazardous waste management unit or facility has the capacity to receive additional hazardous wastes, or has the capacity to receive non-hazardous wastes if the facility owner or operator complies with paragraphs (d) and (e) of this section; and

(B) There is reasonable likelihood that he or another person will recommence operation of the hazardous waste management unit or the facility within one year; and

(C) Closure of the hazardous waste management unit or facility would be incompatible with continued operation of the site; and

(2) He has taken and will continue to take all steps to prevent threats to human health and the environment from the unclosed but not operating hazardous waste management unit or

facility, including compliance with all applicable interim status requirements.

(c) The demonstrations referred to in paragraphs (a)(1) and (b)(1) of this section must be made as follows:

(1) The demonstrations in paragraph (a)(1) of this section must be made at least 30 days prior to the expiration of the 90-day period in paragraph (a) of this section; and

(2) The demonstration in paragraph (b)(1) of this section must be made at least 30 days prior to the expiration of the 180-day period in paragraph (b) of this section, unless the owner or operator is otherwise subject to the deadlines in paragraph (d) of this section.

(d) The Regional Administrator may allow an owner or operator to receive non-hazardous wastes in a landfill, land treatment, or surface impoundment unit after the final receipt of hazardous wastes at that unit if:

(1) The owner or operator submits an amended part B application, or a part B application, if not previously required, and demonstrates that:

(i) The unit has the existing design capacity as indicated on the part A application to receive non-hazardous wastes; and

(ii) There is a reasonable likelihood that the owner or operator or another person will receive non-hazardous wastes in the unit within one year after the final receipt of hazardous wastes; and

(iii) The non-hazardous wastes will not be incompatible with any remaining wastes in the unit or with the facility design and operating requirements of the unit or facility under this part; and

(iv) Closure of the hazardous waste management unit would be incompatible with continued operation of the unit or facility; and

(v) The owner or operator is operating and will continue to operate in compliance with all applicable interim status requirements; and

(2) The part B application includes an amended waste analysis plan, ground-water monitoring and response program, human exposure assessment required under RCRA section 3019, and closure and post-closure plans, and updated cost estimates and demonstrations of financial assurance for closure and post- closure care as necessary and appropriate to reflect any changes due to the presence of hazardous constituents in the non-hazardous wastes, and changes in closure activities, including the expected year of closure if applicable under § 265.112(b)(7), as a result of the receipt of non-hazardous wastes following the final receipt of hazardous wastes; and

(3) The part B application is amended, as necessary and appropriate, to account for the receipt of non-hazardous wastes following receipt of the final volume of hazardous wastes; and

(4) The part B application and the demonstrations referred to in paragraphs (d)(1) and (d)(2) of this section are submitted to the Regional Administrator no later than 180 days prior to the date on which the owner or operator of the facility receives the known final volume of hazardous wastes, or no later than 90 days after the effective date of this rule in the state in which the unit is located, whichever is later.

(e) In addition to the requirements in paragraph (d) of this section, an owner or operator of a hazardous waste surface impoundment that is not in compliance with the liner and leachate collection system requirements in 42 U.S.C. 3004(o)(1) and 3005(j)(1) or 42 U.S.C. 3004(o)(2) or (3) or 3005(j) (2), (3), (4) or (13) must:

(1) Submit with the part B application:

(i) A contingent corrective measures plan; and

(ii) A plan for removing hazardous wastes in compliance with paragraph (e)(2) of this section; and

(2) Remove all hazardous wastes from the unit by removing all hazardous liquids and removing all hazardous sludges to the extent practicable without impairing the integrity of the liner(s), if any.

(3) Removal of hazardous wastes must be completed no later than 90 days after the final receipt of hazardous wastes. The Regional Administrator may approve an extension to this deadline if the owner or operator demonstrates that the removal of hazardous wastes will, of necessity, take

onger than the allotted period to complete and that an extension will not pose a threat to human health and the environment.

(4) If a release that is a statistically ignificant increase (or decrease in the ase of pH) in hazardous oonstituents over background levels is detected in ccordance with the requirements in ubpart F of this part, the owner or perator of the unit:

(i) Must implement corrective measures in accordance with the approved ontingent corrective measures plan equired by paragraph (e)(1) of this ection no later than one year after etection of the release, or approval of he contingent corrective measures lan, whichever is later;

(ii) May receive wastes at the unit ollowing detection of the release only f the approved corrective measures lan includes a demonstration that ontinued receipt of wastes will not mpede corrective action; and

(iii) May be required by the Region- l Administrator to implement correc- ve measures in less than one year or o cease receipt of wastes until correc- ve measures have been implemented necessary to protect human health nd the environment.

(5) During the period of corrective ction, the owner or operator shall rovide semi-annual reports to the Re- ional Administrator that describe the rogress of the corrective action pro- ram, compile all ground-water moni- oring data, and evaluate the effect of he continued receipt of non-hazard- us wastes on the effectiveness of the orrective action.

(6) The Regional Administrator may equire the owner or operator to com- ence closure of the unit if the owner operator fails to implement correc- ve action measures in accordance ith the approved contingent correc- ve measures plan within one year as quired in paragraph (e)(4) of this ction, or fails to make substantial rogress in implementing corrective tion and achieving the facility's ckground levels.

(7) If the owner or operator fails to plement corrective measures as re- ired in paragraph (e)(4) of this sec- on, or if the Regional Administrator termines that substantial progress has not been made pursuant to paragraph (e)(6) of this section he shall:

(i) Notify the owner or operator in writing that the owner or operator must begin closure in accordance with the deadline in paragraphs (a) and (b) of this section and provide a detailed statement of reasons for this determination, and

(ii) Provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments on the decision no later than 20 days after the date of the notice.

(iii) If the Regional Administrator receives no written comments, the decision will become final five days after the close of the comment period. The Regional Administrator will notify the owner or operator that the decision is final, and that a revised closure plan, if necessary, must be submitted within 15 days of the final notice and that closure must begin in accordance with the deadlines in paragraphs (a) and (b) of this section.

(iv) If the Regional Administrator receives written comments on the decision, he shall make a final decision within 30 days after the end of the comment period, and provide the owner or operator in writing and the public through a newspaper notice, a detailed statement of reasons for the final decision. If the Regional Administrator determines that substantial progress has not been made, closure must be initiated in accordance with the deadlines in paragraphs (a) and (b) of this section.

(v) The final determinations made by the Regional Administrator under paragraphs (e)(7) (iii) and (iv) of this section are not subject to administrative appeal.

[51 FR 16451, May 2, 1986, as amended at 54 FR 33396, Aug. 14, 1989]

§ 265.114 Disposal or decontamination of equipment, structures and soils.

During the partial and final closure periods, all contaminated equipment, structures and soil must be properly disposed of, or decontaminated unless specified otherwise in §§ 265.197, 265.228, 265.258, 265.280, or 265.310. By removing all hazardous wastes or hazardous constituents during partial and final closure, the owner or operator may become a generator of hazardous waste and must handle that hazardous waste in accordance with all applicable requirements of Part 262 of this chapter.

[51 FR 16451, May 2, 1986, as amended at 53 FR 34086, Sept. 2, 1988]

§ 265.115 Certification of closure.

Within 60 days of completion of closure of each hazardous waste surface impoundment, waste pile, land treatment, and landfill unit, and within 60 days of completion of final closure, the owner or operator must submit to the Regional Administrator, by registered mail, a certification that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved closure plan. The certification must be signed by the owner or operator and by an independent registered professional engineer. Documentation supporting the independent registered professional engineer's certification must be furnished to the Regional Administrator upon request until he releases the owner or operator from the financial assurance requirements for closure under § 265.143(h).

§ 265.116 Survey plat.

No later than the submission of the certification of closure of each hazardous waste disposal unit, an owner or operator must submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Regional Administrator, a survey plat indicating the location and dimensions of landfill cells or other hazardous waste disposal units with respect to permanently surveyed benchmarks. This plat must be prepared and certified by a professional land surveyor. The plat filed with the local zoning authority, or the authority with jurisdiction over local land use must contain a note, prominently displayed, which states the owner's or operator's obligation to restrict disturbance of the hazardous waste disposal unit in accordance with the applicable Subpart G regulations.

§ 265.117 Post-closure care and use of property.

(a)(1) Post-closure care for each hazardous waste management unit subject to the requirements of §§ 265.117 through 265.120 must begin after completion of closure of the unit and continue for 30 years after that date. It must consist of at least the following:

(i) Monitoring and reporting in accordance with the requirements of Subparts F, K, L, M, and N of this part; and

(ii) Maintenance and monitoring of waste containment systems in accordance with the requirements of Subparts F, K, L, M, and N of this part.

(2) Any time preceding closure of a hazardous waste management unit subject to post-closure care requirements or final closure, or any time during the post-closure period for a particular hazardous waste disposal unit, the Regional Administrator may:

(i) Shorten the post-closure care period applicable to the hazardous waste management unit, or facility, if all disposal units have been closed, if he finds that the reduced period is sufficient to protect human health and the environment (e.g., leachate or ground-water monitoring results, characteristics of the hazardous waste, application of advanced technology, or alternative disposal, treatment, or re-use techniques indicate that the hazardous waste management unit or facility is secure); or

(ii) Extend the post-closure care period applicable to the hazardous waste management unit or facility, if he finds that the extended period is necessary to protect human health and the environment (e.g., leachate or ground-water monitoring results indicate a potential for migration of hazardous wastes at levels which may be harmful to human health and the environment).

(b) The Regional Administator may require, at partial and final closure, continuation of any of the security requirements of § 265.14 during part or all of the post-closure period when:

(1) Hazardous wastes may remain exposed after completion of partial or final closure; or

(2) Access by the public or domestic vestock may pose a hazard to human ealth.

(c) Post-closure use of property on in which hazardous wastes remain ter partial or final closure must ever be allowed to disturb the integri- of the final cover, liner(s), or any her components of the containment stem, or the function of the facili- 's monitoring systems, unless the egional Administrator finds that the sturbance:

(1) Is necessary to the proposed use the property, and will not increase e potential hazard to human health the environment; or

(2) Is necessary to reduce a threat to man health or the environment.

d) All post-closure care activities ust be in accordance with the provi- ns of the approved post-closure an as specified in § 265.118.

65.118 Post-closure plan; amendment of plan.

a) *Written plan.* By May 19, 1981, e owner or operator of a hazardous ste disposal unit must have a writ- post-closure plan. An owner or op- ator of a surface impoundment or ste pile that intends to remove all zardous wastes at closure must pre- re a post-closure plan and submit it the Regional Administrator within days of the date that the owner or erator or Regional Administrator ermines that the hazardous waste nagement unit or facility must be sed as a landfill, subject to the re- rements of §§ 265.117 through .120.

b) Until final closure of the facility, opy of the most current post-clo- e plan must be furnished to the Re- nal Administrator upon request, in- ding request by mail. In addition, facilities without approved post- sure plans, it must also be provided ing site inspections, on the day of pection, to any officer, employee or resentative of the Agency who is y designated by the Administrator. er final closure has been certified, person or office specified in 5.118(c)(3) must keep the approved t-closure plan during the post-clo- e period.

(c) For each hazardous waste management unit subject to the requirements of this section, the post-closure plan must identify the activities that will be carried on after closure of each disposal unit and the frequency of these activities, and include at least:

(1) A description of the planned monitoring activities and frequencies at which they will be performed to comply with Subparts F, K, L, M, and N of this part during the post-closure care period; and

(2) A description of the planned maintenance activities, and frequencies at which they will be performed, to ensure:

(i) The integrity of the cap and final cover or other containment systems in accordance with the requirements of Subparts K, L, M, and N of this part; and

(ii) The function of the monitoring equipment in accordance with the requirements of Subparts F, K, L, M, and N of this part; and

(3) The name, address, and phone number of the person or office to contact about the hazardous waste disposal unit or facility during the post-closure care period.

(d) *Amendment of plan.* The owner or operator may amend the post-closure plan any time during the active life of the facility or during the post-closure care period. An owner or operator with an approved post-closure plan must submit a written request to the Regional Administrator to authorize a change to the approved plan. The written request must include a copy of the amended post-closure plan for approval by the Regional Administrator.

(1) The owner or operator must amend the post-closure plan whenever:

(i) Changes in operating plans or facility design affect the post-closure plan, or

(ii) Events which occur during the active life of the facility, including partial and final closures, affect the post-closure plan.

(2) The owner or operator must amend the post-closure plan at least 60 days prior to the proposed change in facility design or operation, or no later than 60 days after an unexpected

event has occurred which has affected the post-closure plan.

(3) An owner or operator with an approved post-closure plan must submit the modified plan to the Regional Administrator at least 60 days prior to the proposed change in facility design or operation, or no more than 60 days after an unexpected event has occurred which has affected the post-closure plan. If an owner or operator of a surface impoundment or a waste pile who intended to remove all hazardous wastes at closure in accordance with § 265.228(b) or § 265.258(a) is required to close as a landfill in accordance with § 265.310, the owner or operator must submit a post-closure plan within 90 days of the determination by the owner or operator or Regional Administrator that the unit must be closed as a landfill. If the amendment to the post-closure plan is a Class 2 or 3 modification according to the criteria in § 270.42, the modification to the plan will be approved according to the procedures in § 265.118(f).

(4) The Regional Administrator may request modifications to the plan under the conditions described in paragraph (d)(1) of this section. An owner or operator with an approved post-closure plan must submit the modified plan no later than 60 days of the request from the Regional Administrator. If the amendment to the plan is considered a Class 2 or 3 modification according to the criteria in § 270.42, the modifications to the post-closure plan will be approved in accordance with the procedures in § 265.118(f). If the Regional Administrator determines that an owner or operator of a surface impoundment or waste pile who intended to remove all hazardous wastes at closure must close the facility as a landfill, the owner or operator must submit a post-closure plan for approval to the Regional Administrator within 90 days of the determination.

(e) The owner or operator of a facility with hazardous waste management units subject to these requirements must submit his post-closure plan to the Regional Administrator at least 180 days before the date he expects to begin partial or final closure of the first hazardous waste disposal unit. The date he "expects to begin closur of the first hazardous waste dispo unit must be either within 30 d after the date on which the hazardo waste management unit receives t known final volume of hazardo waste or, if there is a reasonable pos bility that the hazardous waste ma agement unit will receive addition hazardous wastes, no later than o year after the date on which the u received the most recent volume hazardous wastes. The owner or oper tor must submit the post-closure pl to the Regional Administrator no la than 15 days after:

(1) Termination of interim stat (except when a permit is issued to th facility simultaneously with termin tion of interim status); or

(2) Issuance of a judicial decree final orders under section 3008 RCRA to cease receiving wastes close.

(f) The Regional Administrator w provide the owner or operator and th public, through a newspaper notic the opportunity to submit writte comments on the post-closure pl and request modifications to the pl no later than 30 days from the date the notice. He will also, in response t a request or at his own discretion, h a public hearing whenever such hearing might clarify one or mo issues concerning a post-closure pla The Regional Administrator will g public notice of the hearing at least days before it occurs. (Public notice the hearing may be given at the sa time as notice of the opportunity f the public to submit written co ments, and the two notices may b combined.) The Regional Administ tor will approve, modify, or disappro the plan within 90 days of its receip If the Regional Administrator do not approve the plan he shall provi the owner or operator with a detail written statement of reasons for th refusal and the owner or operat must modify the plan or submit a n plan for approval within 30 days aft receiving such written statement. Th Regional Administrator will appro or modify this plan in writing with 60 days. If the Regional Administrat modifies the plan, this modified pl becomes the approved post-closur plan. The Regional Administrator must ensure that the approved post-closure plan is consistent with §§ 265.117 through 265.120. A copy of the modified plan with a detailed statement of reasons for the modifications must be mailed to the owner or operator.

(g) The post-closure plan and length of the post-closure care period may be modified any time prior to the end of the post-closure care period in either of the following two ways:

(1) The owner or operator or any member of the public may petition the Regional Administrator to extend or reduce the post-closure care period applicable to a hazardous waste management unit or facility based on cause, or alter the requirements of the post-closure care period based on cause.

(i) The petition must include evidence demonstrating that:

(A) The secure nature of the hazardous waste management unit or facility makes the post-closure care requirement(s) unnecessary or supports reduction of the post-closure care period specified in the current post-closure plan (e.g., leachate or ground-water monitoring results, characteristics of the wastes, application of advanced technology, or alternative disposal, treatment, or re-use techniques indicate that the facility is secure), or

(B) The requested extension in the post-closure care period or alteration of post-closure care requirements is necessary to prevent threats to human health and the environment (e.g., leachate or ground-water monitoring results indicate a potential for migration of hazardous wastes at levels which may be harmful to human health and the environment).

(ii) These petitions will be considered by the Regional Administrator only when they present new and relevant information not previously considered by the Regional Administrator. Whenever the Regional Administrator is considering a petition, he will provide the owner or operator and the public, through a newspaper notice, the opportunity to submit written comments within 30 days of the date of the notice. He will also, in response to a request or at his own discretion, hold a public hearing whenever a hearing might clarify one or more issues concerning the post-closure plan. The Regional Administrator will give the public notice of the hearing at least 30 days before it occurs. (Public notice of the hearing may be given at the same time as notice of the opportunity for written public comments, and the two notices may be combined.) After considering the comments, he will issue a final determination, based upon the criteria set forth in paragraph (g)(1) of this section.

(iii) If the Regional Administrator denies the petition, he will send the petitioner a brief written response giving a reason for the denial.

(2) The Regional Administrator may tentatively decide to modify the post-closure plan if he deems it necessary to prevent threats to human health and the environment. He may propose to extend or reduce the post-closure care period applicable to a hazardous waste management unit or facility based on cause or alter the requirements of the post-closure care period based on cause.

(i) The Regional Administrator will provide the owner or operator and the affected public, through a newspaper notice, the opportunity to submit written comments within 30 days of the date of the notice and the opportunity for a public hearing as in paragraph (g)(1)(ii) of this section. After considering the comments, he will issue a final determination.

(ii) The Regional Administrator will base his final determination upon the same criteria as required for petitions under paragraph (g)(1)(i) of this section. A modification of the post-closure plan may include, where appropriate, the temporary suspension rather than permanent deletion of one or more post-closure care requirements. At the end of the specified period of suspension, the Regional Administrator would then determine whether the requirement(s) should be permanently discontinued or reinstated to prevent threats to human health and the environment.

[51 FR 16451, May 2, 1986, as amended at 53 FR 37935, Sept. 28, 1988]

§ 265.119 Post-closure notices.

(a) No later than 60 days after certification of closure of each hazardous waste disposal unit, the owner or operator must submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the Regional Administrator, a record of the type, location, and quantity of hazardous wastes disposed of within each cell or other disposal unit of the facility. For hazardous wastes disposed of before January 12, 1981, the owner or operator must identify the type, location and quantity of the hazardous wastes to the best of his knowledge and in accordance with any records he has kept.

(b) Within 60 days of certification of closure of the first hazardous waste disposal unit and within 60 days of certification of closure of the last hazardous waste disposal unit, the owner or operator must:

(1) Record, in accordance with State law, a notation on the deed to the facility property—or on some other instrument which is normally examined during title search—that will in perpetuity notify any potential purchaser of the property that:

(i) The land has been used to manage hazardous wastes; and

(ii) Its use is restricted under 40 CFR Subpart G regulations; and

(iii) The survey plat and record of the type, location, and quantity of hazardous wastes disposed of within each cell or other hazardous waste disposal unit of the facility required by §§ 265.116 and 265.119(a) have been filed with the local zoning authority or the authority with jurisdiction over local land use and with the Regional Administrator; and

(2) Submit a certification signed by the owner or operator that he has recorded the notation specified in paragraph (b)(1) of this section and a copy of the document in which the notation has been placed, to the Regional Administrator.

(c) If the owner or operator or any subsequent owner of the land upon which a hazardous waste disposal unit was located wishes to remove hazardous wastes and hazardous waste residues, the liner, if any, and all contaminated structures, equipment, and soils, he must request a modification to th
approved post-closure plan in accor
ance with the requirements (
§ 265.118(g). The owner or operat
must demonstrate that the removal (
hazardous wastes will satisfy the cri
ria of § 265.117(c). By removing ha
ardous waste, the owner or operato
may become a generator of hazardo
waste and must manage it in accor
ance with all applicable requiremen
of this chapter. If the owner or oper
tor is granted approval to conduct th
removal activities, the owner or oper
tor may request that the Regional Ad
ministrator approve either:

(1) The removal of the notation o
the deed to the facility property o
other instrument normally examine
during title search, or

(2) The addition of a notation to th
deed or instrument indicating the r
moval of the hazardous waste.

**§ 265.120 Certification of completion (
post-closure care.**

No later than 60 days after the co
pletion of the established post-closu
care period for each hazardous was
disposal unit, the owner or operat
must submit to the Regional Admin
trator, by registered mail, a certific
tion that the post-closure care peri
for the hazardous waste disposal un
was performed in accordance with th
specifications in the approved post-cl
sure plan. The certification must b
signed by the owner or operator a
an independent registered professio
engineer. Documentation supporti
the independent registered professio
al engineer's certification must be fu
nished to the Regional Administrat
upon request until he releases th
owner or operator from the financ
assurance requirements for post-cl
sure care under § 265.145(h).

(The information collection requirement
Subpart G are approved by the Office
Management and Budget under cont
number 2050-0008)

Subpart H—Financial Requireme

Source: 47 FR 15064, Apr. 7, 1982, unl
otherwise noted.

§ 265.140 Applicability.

(a) The requirements of §§ 265.142, 265.143 and 265.147 through 265.150 apply to owners or operators of all hazardous waste facilities, except as provided otherwise in this section or in § 265.1.

(b) The requirements of §§ 265.144 and 265.146 apply only to owners and operators of disposal facilities and tank systems that are required under § 265.197 to meet the requirements for landfills

(c) States and the Federal government are exempt from the requirements of this subpart.

[47 FR 15064, Apr. 7, 1982, as amended at 51 FR 16455, May 2, 1986; 51 FR 25479, July 14, 1986]

§ 265.141 Definitions of terms as used in this subpart.

(a) "Closure plan" means the plan for closure prepared in accordance with the requirements of § 265.112.

(b) "Current closure cost estimate" means the most recent of the estimates prepared in accordance with § 265.142 (a), (b), and (c).

(c) "Current post-closure cost estimate" means the most recent of the estimates prepared in accordance with § 265.144 (a), (b), and (c).

(d) "Parent corporation" means a corporation which directly owns at least 50 percent of the voting stock of the corporation which is the facility owner or operator; the latter corporation is deemed a "subsidiary" of the parent corporation.

(e) "Post-closure plan" means the plan for post-closure care prepared in accordance with the requirements of §§ 265.117 through 265.120.

(f) The following terms are used in he specifications for the financial ests for closure, post-closure care, and iability coverage. The definitions are ntended to assist in the understandng of these regulations and are not inended to limit the meanings of terms n a way that conflicts with generally ccepted accounting practices.

"Assets" means all existing and all robable future economic benefits obained or controlled by a particular ntity.

"Current assets" means cash or ther assets or resources commonly identified as those which are reasonably expected to be realized in cash or sold or consumed during the normal operating cycle of the business.

"Current liabilities" means obligations whose liquidation is reasonably expected to require the use of existing resources properly classifiable as current assets or the creation of other current liabilities.

"Current plugging and abandonment cost estimate" means the most recent of the estimates prepared in accordance with § 144.62(a), (b), and (c) of this title.

"Independently audited' refers to an audit performed by an independent certified public accountant in accordance with generally accepted auditing standards.

"Liabilities" means probable future sacrifices of economic benefits arising from present obligations to transfer assets or provide services to other entities in the future as a result of past transactions or events.

"Net working capital" means current assets minus current liabilities.

"Net worth" means total assets minus total liabilities and is equivalent to owner's equity.

"Tangible net worth" means the tangible assets that remain after deducting liabilities; such assets would not include intangibles such as goodwill and rights to patents or royalties.

(g) In the liability insurance requirements the terms "bodily injury" and "property damage" shall have the meanings given these terms by applicable State law. However, these terms do not include those liabilities which, consistent with standard industry practice, are excluded from coverage in liability policies for bodily injury and property damage. The Agency intends the meanings of other terms used in the liability insurance requirements to be consistent with their common meanings within the insurance industry. The definitions given below of several of the terms are intended to assist in the understanding of these regulations and are not intended to limit their meanings in a way that conflicts with general insurance industry usage.

"Accidental occurrence" means an accident, including continuous or repeated exposure to conditions, which results in bodily injury or property damage neither expected nor intended from the standpoint of the insured.

"Legal defense costs" means any expenses that an insurer incurs in defending against claims of third parties brought under the terms and conditions of an insurance policy.

"Nonsudden accidental occurrence" means an occurrence which takes place over time and involves continuous or repeated exposure.

"Sudden accidental occurrence" means an occurrence which is not continuous or repeated in nature.

(h) "Substantial business relationship" means the extent of a business relationship necessary under applicable State law to make a guarantee contract issued incident to that relationship valid and enforceable. A "substantial business relationship" must arise from a pattern of recent or ongoing business transactions, in addition to the guarantee itself, such that a currently existing business relationship between the guarantor and the owner or operator is demonstrated to the satisfaction of the applicable EPA Regional Administrator.

[47 FR 16558, Apr. 16, 1982, as amended at 51 FR 16456, May 2, 1986; 53 FR 33959, Sept. 1, 1988]

§ 265.142 Cost estimate for closure.

(a) The owner or operator must have a detailed written estimate, in current dollars, of the cost of closing the facility in accordance with the requirements in §§ 265.111 through 265.115 and applicable closure requirements of §§ 265.178, 265.197, 265.228, 265.258, 265.280, 265.310, 265.351, 265.381 and 265.404.

(1) The estimate must equal the cost of final closure at the point in the facility's active life when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan (see § 265.112(b)); and

(2) The closure cost estimate must be based on the costs to the owner or operator of hiring a third party to close the facility. A third party is a party who is neither a parent nor a subsidiary of the owner or operator. (See definition of parent corporation in § 265.141(d).) The owner or operat may use costs for on-site disposal if h can demonstrate that on-site dispos capacity will exist at all times over th life of the facility.

(3) The closure cost estimate m not incorporate any salvage value th may be realized with the sale of ha ardous wastes, or non-hazardou wastes if applicable under § 265.113(d facility structures or equipment, lan or other assets associated with the fa cility at the time of partial or final clo sure.

(4) The owner or operator may n incorporate a zero cost for hazardou wastes, or non-hazardous wastes if ap plicable under § 265.113(d), that mig have economic value.

(b) During the active life of the fa cility, the owner or operator mu adjust the closure cost estimate for in flation within 60 days prior to the an niversary date of the establishment o the financial instrument(s) used t comply with § 265.143. For owners an operators using the financial test o corporate guarantee, the closure co estimate must be updated for inflati within 30 days after the close of th firm's fiscal year and before submis sion of updated information to the Re gional Administrator as specified i § 265.143(e)(3). The adjustment ma be made by recalculating the closu cost estimate in current dollars, or b using an inflation factor derived fro the most recent Implicit Price Defl tor for Gross National Product pub lished by the U.S. Department o Commerce in its *Survey of Curre Business*, as specified in paragraph (b)(1) and (2) of this section. The in flation factor is the result of dividin the latest published annual Deflat by the Deflator for the previous yea

(1) The first adjustment is made b multiplying the closure cost estima by the inflation factor. The result i the adjusted closure cost estimate.

(2) Subsequent adjustments a made by multiplying the latest adjus ed closure cost estimate by the late inflation factor.

(c) During the active life of the faci ity, the owner or operator must revi the closure cost estimate no later tha 30 days after a revision has been mad to the closure plan which increas he cost of closure. If the owner or operator has an approved closure plan, he closure cost estimate must be revised no later than 30 days after the Regional Administrator has approved he request to modify the closure plan, f the change in the closure plan increases the cost of closure. The revised losure cost estimate must be adjusted or inflation as specified in 265.142(b).

(d) The owner or operator must keep he following at the facility during the perating life of the facility: The atest closure cost estimate prepared n accordance with §§ 265.142 (a) and c) and, when this estimate has been djusted in accordance with 265.142(b), the latest adjusted cloure cost estimate.

Approved by the Office of Management nd Budget under control number 2050-036)

47 FR 15064, Apr. 7, 1982, as amended at 50 R 4514, Jan. 31, 1985; 51 FR 16456, May 2, 986; 54 FR 33397, Aug. 14, 1989]

265.143 Financial assurance for closure.

By the effective date of these regulaions, an owner or operator of each faility must establish financial assurnce for closure of the facility. He ust choose from the options as speciied in paragraphs (a) through (e) of his section.

(a) *Closure trust fund.* (1) An owner r operator may satisfy the requireents of this section by establishing a losure trust fund which conforms to he requirements of this paragraph nd submitting an originally signed uplicate of the trust agreement to he Regional Administrator. The rustee must be an entity which has he authority to act as a trustee and hose trust operations are regulated nd examined by a Federal or State gency.

(2) The wording of the trust agreeent must be identical to the wording ecified in § 264.151(a)(1), and the ust agreement must be accompanied a formal certification of acknowligment (for example, see 264.151(a)(2)). Schedule A of the ust agreement must be updated ithin 60 days after a change in the ount of the current closure cost esmate covered by the agreement.

(3) Payments into the trust fund must be made annually by the owner or operator over the 20 years beginning with the effective date of these regulations or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the "pay-in period." The payments into the closure trust fund must be made as follows:

(i) The first payment must be made by the effective date of these regulations, except as provided in paragraph (a)(5) of this section. The first payment must be at least equal to the current closure cost estimate, except as provided in § 265.143(f), divided by the number of years in the pay-in period.

(ii) Subsequent payments must be made no later than 30 days after each anniversary date of the first payment. The amount of each subsequent payment must be determined by this formula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current closure cost estimate, CV is the current value of the trust fund, and Y is the number of years remaining in the pay-in period.

(4) The owner or operator may accelerate payments into the trust fund or he may deposit the full amount of the current closure cost estimate at the time the fund is established. However, he must maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in paragraph (a)(3) of this section.

(5) If the owner or operator establishes a closure trust fund after having used one or more alternate mechanisms specified in this section, his first payment must be in at least the amount that the fund would contain if the trust fund were established initially and annual payments made as specified in paragraph (a)(3) of this section.

(6) After the pay-in period is completed, whenever the current closure cost estimate changes, the owner or operator must compare the new estimate with the trustee's most recent

annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator, within 60 days after the change in the cost estimate, must either deposit an amount into the fund so that its value after this deposit at least equals the amount of the current closure cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(7) If the value of the trust fund is greater than the total amount of the current closure cost estimate, the owner or operator may submit a written request to the Regional Administrator for release of the amount in excess of the current closure cost estimate.

(8) If an owner or operator substitutes other financial assurance as specified in this section for all or part of the trust fund, he may submit a written request to the Regional Administrator for release of the amount in excess of the current closure cost estimate covered by the trust fund.

(9) Within 60 days after receiving a request from the owner or operator for release of funds as specified in paragraph (a) (7) or (8) of this section, the Regional Administrator will instruct the trustee to release to the owner or operator such funds as the Regional Administrator specifies in writing.

(10) After beginning partial or final closure, an owner or operator or another person authorized to conduct partial or final closure may request reimbursements for partial or final closure expenditures by submitting itemized bills to the Regional Administrator. The owner or operator may request reimbursements for partial closure only if sufficient funds are remaining in the trust fund to cover the maximum costs of closing the facility over its remaining operating life. No later than 60 days after receiving bills for partial or final closure activities, the Regional Administrator will instruct the trustee to make reimbursements in those amounts as the Regional Administrator specifies in writing, if the Regional Administrator determines that the partial or final closure expenditures are in accordance with the approved closure plan, or othe wise justified. If the Regional Admi istrator has reason to believe that th maximum cost of closure over the r maining life of the facility will be si nificantly greater than the value o the trust fund, he may withhold rei bursements of such amounts as h deems prudent until he determines, i accordance with § 265.143(h) that th owner or operator is no longer r quired to maintain financial assuran for final closure of the facility. If th Regional Administrator does not i struct the trustee to make such rei bursements, he will provide to th owner or operator a detailed writte statement of reasons.

(11) The Regional Administrator w agree to termination of the tr when:

(i) An owner or operator substitu alternate financial assurance as spe fied in this section; or

(ii) The Regional Administrator r leases the owner or operator from th requirements of this section in accor ance with § 265.143(h).

(b) *Surety bond guaranteeing pa ment into a closure trust fund.* (1) A owner or operator may satisfy the r quirements of this section by obtai ing a surety bond which conforms t the requirements of this paragrap and submitting the bond to the R gional Administrator. The surety com pany issuing the bond must, at a mi mum, be among those listed as accep able sureties on Federal bonds in Ci cular 570 of the U.S. Department o the Treasury.

(2) The wording of the surety bo must be identical to the wording spe fied in § 264.151(b).

(3) The owner or operator who us a surety bond to satisfy the requir ments of this section must also esta lish a standby trust fund. Under th terms of the bond, all payments ma thereunder will be deposited by th surety directly into the standby tru fund in accordance with instructio from the Regional Administrator. Th standby trust fund must meet the r quirements specified in § 265.143(except that:

(i) An originally signed duplicate o the trust agreement must be subm ted to the Regional Administrator with the surety bond; and

(ii) Until the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in § 265.143(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that the owner or operator will:

(i) Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or

(ii) Fund the standby trust fund in an amount equal to the penal sum within 15 days after an administrative order to begin final closure issued by the Regional Administrator becomes final, or within 15 days after an order to begin final closure is issued by a U.S. district court or other court of competent jurisdiction; or

(iii) Provide alternate financial assurance as specified in this section, and obtain the Regional Administrator's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice of cancellation of the bond from the urety.

(5) Under the terms of the bond, the urety will become liable on the bond obligation when the owner or operator ails to perform as guaranteed by the bond.

(6) The penal sum of the bond must e in an amount at least equal to the urrent closure cost estimate, except s provided in § 265.143(f).

(7) Whenever the current closure ost estimate increases to an amount reater than the penal sum, the owner r operator, within 60 days after the ncrease, must either cause the penal um to be increased to an amount at east equal to the current closure cost stimate and submit evidence of such ncrease to the Regional Administrator, or obtain other financial assurnce as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the penal sum may be reduced to the amount of the current closure cost estimate following written approval by the Regional Administrator.

(8) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Regional Administrator. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Regional Administrator, as evidenced by the return receipts.

(9) The owner or operator may cancel the bond if the Regional Administrator has given prior written consent based on his receipt of evidence of alternate financial assurance as specified in this section.

(c) *Closure letter of credit.* (1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit which conforms to the requirements of this paragraph and submitting the letter to the Regional Administrator. The issuing institution must be an entity which has the authority to issue letters of credit and whose letter-of-credit operations are regulated and examined by a Federal or State agency.

(2) The wording of the letter of credit must be identical to the wording specified in § 264.151(d).

(3) An owner or operator who uses a letter of credit to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the Regional Administrator will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the Regional Administrator. This standby trust fund must meet the requirements of the trust fund specified in § 265.143(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Regional Administrator with the letter of credit; and

(ii) Unless the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in § 265.143(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: The EPA Identification Number, name, and address of the facility, and the amount of funds assured for closure of the facility by the letter of credit.

(5) The letter of credit must be irrevocable and issued for a period of at least 1 year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least 1 year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the Regional Administrator by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the Regional Administrator have received the notice, as evidenced by the return receipts.

(6) The letter of credit must be issued in an amount at least equal to the current closure cost estimate, except as provided in § 265.143(f).

(7) Whenever the current closure cost estimate increases to an amount greater than the amount of the credit, the owner or operator, within 60 days after the increase, must either cause the amount of the credit to be increased so that it at least equals the current closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the amount of the credit may be reduced to the amount of the current closure cost estimate following written approval by the Regional Administrator.

(8) Following a final administrative determination pursuant to section 3008 of RCRA that the owner or operator has failed to perform final closure in accordance with the approved closure plan when required to do so, the Regional Administrator may draw on the letter of credit.

(9) If the owner or operator does not establish alternate financial assurance as specified in this section and obtain written approval of such alternate assurance from the Regional Administrator within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the Regional Administrator will draw on the letter of credit. The Regional Administrator may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of any such extension the Regional Administrator will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this section and obtain written approval of such assurance from the Regional Administrator.

(10) The Regional Administrator will return the letter of credit to the issuing institution for termination when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 265.143(h).

(d) *Closure insurance.* (1) An owner or operator may satisfy the requirements of this section by obtaining closure insurance which conforms to the requirements of this paragraph and submitting a certificate of such insurance to the Regional Administrator. By the effective date of these regulations the owner or operator must submit to the Regional Administrator a letter from an insurer stating that the insurer is considering issuance of closure insurance conforming to the requirements of this paragraph to the owner or operator. Within 90 days after the effective date of these regulations, the owner or operator must submit the certificate of insurance to the Regional Administrator or establish other financial assurance as specified in this section. At a minimum, the insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) The wording of the certificate of insurance must be identical to the wording specified in § 264.151(e).

(3) The closure insurance policy must be issued for a face amount at least equal to the current closure cost estimate, except as provided in § 265.143(f). The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(4) The closure insurance policy must guarantee that funds will be available to close the facility whenever final closure occurs. The policy must also guarantee that once final closure begins, the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the Regional Administrator, to such party or parties as the Regional Administrator specifies.

(5) After beginning partial or final closure, an owner or operator or any other person authorized to conduct closure may request reimbursements for closure expenditures by submitting itemized bills to the Regional Administrator. The owner or operator may request reimbursements for partial closure only if the remaining value of the policy is sufficient to cover the maximum costs of closing the facility over its remaining operating life. Within 60 days after receiving bills for closure activities, the Regional Administrator will instruct the insurer to make reimbursements in such amounts as the Regional Administrator specifies in writing if the Regional Administrator determines that the partial or final closure expenditures are in accordance with the approved closure plan or otherwise justified. If the Regional Administrator has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the face amount of the policy, he may withhold reimbursement of such amounts as he deems prudent until he determines, in accordance with § 265.143(h), that the owner or operator is no longer required to maintain financial assurance for final closure of the particular facility. If the Regional Administrator does not instruct the insurer to make such reimbursements, he will provide to the owner or operator a detailed written statement of reasons.

(6) The owner or operator must maintain the policy in full force and effect until the Regional Administrator consents to termination of the policy by the owner or operator as specified in paragraph (d)(10) of this section. Failure to pay the premium, without substitution of alternate financial assurance as specified in this section, will constitute a significant violation of these regulations, warranting such remedy as the Regional Administrator deems necessary. Such violation will be deemed to begin upon receipt by the Regional Administrator of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

(7) Each policy must contain a provision allowing assignment of the policy to a successor owner or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

(8) The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the Regional Administrator. Cancellation, termination, or failure to renew may not occur, however, during the 120 days beginning with the date of receipt of the notice by both the Regional Administrator and

the owner or operator, as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

(i) The Regional Administrator deems the facility abandoned; or

(ii) Interim status is terminated or revoked; or

(iii) Closure is ordered by the Regional Administrator or a U.S. district court or other court of competent jurisdiction; or

(iv) The owner or operator is named as debtor in a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code; or

(v) The premium due is paid.

(9) Whenever the current closure cost estimate increases to an amount greater than the face amount of the policy, the owner or operator, within 60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure cost estimate decreases, the face amount may be reduced to the amount of the current closure cost estimate following written approval by the Regional Administrator.

(10) The Regional Administrator will give written consent to the owner or operator that he may terminate the insurance policy when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 265.143(h).

(e) *Financial test and corporate guarantee for closure.* (1) An owner or operator may satisfy the requirements of this section by demonstrating that he passes a financial test as specified in this paragraph. To pass this test the owner or operator must meet the criteria of either paragraph (e)(1)(i) or (ii) of this section:

(i) The owner or operator must have:

(A) Two of the following three ratios: A ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

(B) Net working capital and tangible net worth each at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least $10 million; and

(D) Assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

(ii) The owner or operator must have:

(A) A current rating for his most recent bond issuance of AAA, AA, A or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's; and

(B) Tangible net worth at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least $10 million; and

(D) Assets located in the United States amounting to at least 90 percent of total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

(2) The phrase "current closure and post-closure cost estimates" as used in paragraph (e)(1) of this section refers to the cost estimates required to be shown in paragraphs 1-4 of the letter from the owner's or operator's chief financial officer (§ 264.151(f)). The phrase "current plugging and abandonment cost estimates" as used in paragraph (e)(1) of this section refers to the cost estimates required to be shown in paragraphs 1-4 of the letter from the owner's or operator's chief financial officer (§ 144.70(f) of this title).

(3) To demonstrate that he meets this test, the owner or operator must submit the following items to the Regional Administrator:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in § 264.151(f); and

(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(iii) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) The owner or operator may obtain an extension of the time allowed for submission of the documents specified in paragraph (e)(3) of this section if the fiscal year of the owner or operator ends during the 90 days prior to the effective date of these regulations and if the year-end financial statements for that fiscal year will be audited by an independent certified public accountant. The extension will end no later than 90 days after the end of the owner's or operator's fiscal year. To obtain the extension, the owner's or operator's chief financial officer must send, by the effective date of these regulations, a letter to the Regional Administrator of each Region in which the owner's or operator's facilities to be covered by the financial test are located. This letter from the chief financial officer must:

(i) Request the extension;

(ii) Certify that he has grounds to believe that the owner or operator meets the criteria of the financial test;

(iii) Specify for each facility to be covered by the test the EPA Identification Number, name, address, and current closure and post-closure cost estimates to be covered by the test;

(iv) Specify the date ending the owner's or operator's last complete fiscal year before the effective date of these regulations;

(v) Specify the date, no later than 90 days after the end of such fiscal year, when he will submit the documents specified in paragraph (e)(3) of this section; and

(vi) Certify that the year-end financial statements of the owner or operator for such fiscal year will be audited by an independent certified public accountant.

(5) After the initial submission of items specified in paragraph (e)(3) of this section, the owner or operator must send updated information to the Regional Administrator within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in paragraph (e)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (e)(1) of this section, he must send notice to the Regional Administrator of intent to establish alternate financial assurance as specified in this section. The notice must be sent by certified mail within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the requirements. The owner or operator must provide the alternate financial assurance within 120 days after the end of such fiscal year.

(7) The Regional Administrator may, based on a reasonable belief that the owner or operator may no longer meet the requirements of paragraph (e)(1) of this section, require reports of financial condition at any time from the owner or operator in addition to those specified in paragraph (e)(3) of this section. If the Regional Administrator finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of paragraph (e)(1) of this section, the owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of such a finding.

(8) The Regional Administrator may disallow use of this test on the basis of qualifications in the opinion expressed

by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (e)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Regional Administrator will evaluate other qualifications on an individual basis. The owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of the disallowance.

(9) The owner or operator is no longer required to submit the items specified in paragraph (e)(3) of this section when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 265.143(h).

(10) An owner or operator may meet the requirements of this section by obtaining a written guarantee, hereafter referred to as "corporate guarantee." The guarantor must be the parent corporation of the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (e)(1) through (8) of this section and must comply with the terms of the corporate guarantee. The wording of the corporate guarantee must be identical to the wording specified in § 264.151(h). The corporate guarantee must accompany the items sent to the Regional Administrator as specified in paragraph (e)(3) of this section. The terms of the corporate guarantee must provide that:

(i) If the owner or operator fails to perform final closure of a facility covered by the corporate guarantee in accordance with the closure plan and other interim status requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in § 265.143(a) in the name of the owner or operator.

(ii) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Regional Administrator. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Regional Administrator, as evidenced by the return receipts.

(iii) If the owner or operator fails to provide alternate financial assurance as specified in this section and obtain the written approval of such alternate assurance from the Regional Administrator within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternate financial assurance in the name of the owner or operator.

(f) *Use of multiple financial mechanisms.* An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds, letters of credit, and insurance. The mechanisms must be as specified in paragraphs (a) through (d), respectively, of this section, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current closure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, he may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The Regional Administrator may use any or all of the mechanisms to provide for closure of the facility.

(g) *Use of a financial mechanism for multiple facilities.* An owner or operator may use a financial assurance mechanism specified in this section to meet the requirements of this section for more than one facility. Evidence of financial assurance submitted to the Regional Administrator must include a list showing, for each facility, the EPA Identification Number, name, address and the amount of funds for closure assured by the mechanism. If the facilities covered by the mechanism are in more than one Region, identical evidence of financial assurance must be submitted to and maintained with the Regional Administrators of all such

egions. The amount of funds avail-
ble through the mechanism must be
less than the sum of funds that
ould be available if a separate mech-
nism had been established and main-
ined for each facility. In directing
nds available through the mecha-
sm for closure of any of the facilities
vered by the mechanism, the Re-
onal Administrator may direct only
e amount of funds designated for
at facility, unless the owner or oper-
or agrees to the use of additional
nds available under the mechanism.

h) *Release of the owner or operator*
m the requirements of this section.
ithin 60 days after receiving certifi-
tions from the owner or operator
d an independent registered profes-
nal engineer that final closure has
en completed in accordance with the
proved closure plan, the Regional
ministrator will notify the owner or
erator in writing that he is no
ger required by this section to
intain financial assurance for final
sure of the facility, unless the Re-
nal Administrator has reason to be-
e that final closure has not been in
ordance with the approved closure
n. The Regional Administrator
ll provide the owner or operator a
ailed written statement of any such
son to believe that closure has not
n in accordance with the approved
sure plan.

FR 15064, Apr. 7, 1982, as amended at 51
16456, May 2, 1986]

5.144 Cost estimate for post-closure care.

) The owner or operator of a haz-
ous waste disposal unit must have a
ailed written estimate, in current
ars, of the annual cost of post-clo-
monitoring and maintenance of
facility in accordance with the ap-
able post-closure regulations in
65.117 through 265.120, 265.228,
258, 265.280, and 265.310.

) The post-closure cost estimate
t be based on the costs to the
er or operator of hiring a third
y to conduct post-closure care ac-
ies. A third party is a party who is
her a parent nor subsidiary of the
er or operator. (See definition of
nt corporation in § 265.141(d).)

(2) The post-closure cost estimate is calculated by multiplying the annual post-closure cost estimate by the number of years of post-closure care required under § 265.117.

(b) During the active life of the facility, the owner or operator must adjust the post-closure cost estimate for inflation within 60 days prior to the anniversary date of the establishment of the financial instrument(s) used to comply with § 265.145. For owners or operators using the financial test or corporate guarantee, the post-closure care cost estimate must be updated for inflation no later than 30 days after the close of the firm's fiscal year and before submission of updated information to the Regional Administrator as specified in § 265.145(d)(5). The adjustment may be made by recalculating the post-closure cost estimate in current dollars or by using an inflation factor derived from the most recent Implicit Price Deflator for Gross National Product published by the U.S. Department of Commerce in its *Survey of Current Business* as specified in § 265.145 (b)(1) and (2). The inflation factor is the result of dividing the latest published annual Deflator by the Deflator for the previous year.

(1) The first adjustment is made by multiplying the post-closure cost estimate by the inflation factor. The result is the adjusted post-closure cost estimate.

(2) Subsequent adjustments are made by multiplying the latest adjusted post-closure cost estimate by the latest inflation factor.

(c) During the active life of the facility, the owner or operator must revise the post-closure cost estimate no later than 30 days after a revision to the post-closure plan which increases the cost of post-closure care. If the owner or operator has an approved post-closure plan, the post-closure cost estimate must be revised no later than 30 days after the Regional Administrator has approved the request to modify the plan, if the change in the post-closure plan increases the cost of post-closure care. The revised post-closure cost estimate must be adjusted for inflation as specified in § 265.144(b).

(d) The owner or operator must keep the following at the facility during the operating life of the facility: the latest post-closure cost estimate prepared in accordance with § 265.144 (a) and (c) and, when this estimate has been adjusted in accordance with § 265.144(b), the latest adjusted post-closure cost estimate.

(Approved by the Office of Management and Budget under control number 2050-0036)

[47 FR 15064, Apr. 7, 1982, as amended at 50 FR 4514, Jan. 31, 1985; 51 FR 16457, May 2, 1986]

§ 265.145 Financial assurance for post-closure care.

By the effective date of these regulations, an owner or operator of a facility with a hazardous waste disposal unit must establish financial assurance for post-closure care of the disposal unit(s).

(a) *Post-closure trust fund.* (1) An owner or operator may satisfy the requirements of this section by establishing a post-closure trust fund which conforms to the requirements of this paragraph and submitting an originally signed duplicate of the trust agreement to the Regional Administrator. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(2) The wording of the trust agreement must be identical to the wording specified in § 264.151(a)(1), and the trust agreement must be accompanied by a formal certification of acknowledgment (for example, see § 264.151(a)(2)). Schedule A of the trust agreement must be updated within 60 days after a change in the amount of the current post-closure cost estimate covered by the agreement.

(3) Payments into the trust fund must be made annually by the owner or operator over the 20 years beginning with the effective date of these regulations or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereafter referred to as the "pay-in period." The payments into the post-closure trust fund must be made as follows:

(i) The first payment must be
by the effective date of these re
tions, except as provided in paragr
(a)(5) of this section. The first
ment must be at least equal to the
rent post-closure cost estimate, ex
as provided in § 265.145(f), divided
the number of years in the pa
period.

(ii) Subsequent payments mus
made no later than 30 days after
anniversary date of the first payme
The amount of each subsequent
ment must be determined by this
mula:

$$\text{Next payment} = \frac{CE - CV}{Y}$$

where CE is the current post-clo
cost estimate, CV is the current v
of the trust fund, and Y is the num
of years remaining in the pa
period.

(4) The owner or operator may ac
erate payments into the trust fund
he may deposit the full amount of
current post-closure cost estimate
the time the fund is established. Ho
ever, he must maintain the value
the fund at no less than the value th
the fund would have if annual p
ments were made as specified in pa
graph (a)(3) of this section.

(5) If the owner or operator est
lishes a post-closure trust fund af
having used one or more altern
mechanisms specified in this secti
his first payment must be in at le
the amount that the fund would c
tain if the trust fund were establish
initially and annual payments made
specified in paragraph (a)(3) of t
section.

(6) After the pay-in period is c
pleted, whenever the current post-
sure cost estimate changes during
operating life of the facility,
owner or operator must compare
new estimate with the trustee's m
recent annual valuation of the tr
fund. If the value of the fund is
than the amount of the new estim
the owner or operator, within 60 d
after the change in the cost estim
must either deposit an amount
the fund so that its value after this

posit at least equals the amount of the current post-closure cost estimate, or obtain other financial assurance as specified in this section to cover the difference.

(7) During the operating life of the facility, if the value of the trust fund is greater than the total amount of the current post-closure cost estimate, the owner or operator may submit a written request to the Regional Administrator for release of the amount in excess of the current post-closure cost estimate.

(8) If an owner or operator substitutes other financial assurance as specified in this section for all or part of the trust fund, he may submit a written request to the Regional Administrator for release of the amount in excess of the current post-closure cost estimate covered by the trust fund.

(9) Within 60 days after receiving a request from the owner or operator for release of funds as specified in paragraph (a) (7) or (8) of this section, the Regional Administrator will instruct the trustee to release to the owner or operator such funds as the Regional Administrator specifies in writing.

(10) During the period of post-closure care, the Regional Administrator may approve a release of funds if the owner or operator demonstrates to the Regional Administrator that the value of the trust fund exceeds the remaining cost of post-closure care.

(11) An owner or operator or any other person authorized to conduct post-closure care may request reimbursements for post-closure expenditures by submitting itemized bills to the Regional Administrator. Within 60 days after receiving bills for post-closure care activities, the Regional Administrator will instruct the trustee to make reimbursements in those amounts as the Regional Administrator specifies in writing, if the Regional Administrator determines that the post-closure expenditures are in accordance with the approved post-closure plan or otherwise justified. If the Regional Administrator does not instruct the trustee to make such reimbursements, he will provide the owner or operator with a detailed written statement of reasons.

(12) The Regional Administrator will agree to termination of the trust when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 265.145(h).

(b) *Surety bond guaranteeing payment into a post-closure trust fund.* (1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this paragraph and submitting the bond to the Regional Administrator. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on Federal bonds in Circular 570 of the U.S. Department of the Treasury.

(2) The wording of the surety bond must be identical to the wording specified in § 264.151(b).

(3) The owner or operator who uses a surety bond to satisfy the requirements of this section must also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the Regional Administrator. This standby trust fund must meet the requirements specified in § 265.145(a), except that:

(i) An originally signed duplicate of the trust agreement must be submitted to the Regional Administrator with the surety bond; and

(ii) Until the standby trust fund is funded pursuant to the requirements of this section, the following are not required by these regulations:

(A) Payments into the trust fund as specified in § 265.145(a);

(B) Updating of Schedule A of the trust agreement (see § 264.151(a)) to show current post-closure cost estimates;

(C) Annual valuations as required by the trust agreement; and

(D) Notices of nonpayment as required by the trust agreement.

(4) The bond must guarantee that the owner or operator will:

(i) Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility; or

(ii) Fund the standby trust fund in an amount equal to the penal sum within 15 days after an administrative order to begin final closure issued by the Regional Administrator becomes final, or within 15 days after an order to begin final closure is issued by a U.S. district court or other court of competent jurisdiction; or

(iii) Provide alternate financial assurance as specified in this section, and obtain the Regional Administrator's written approval of the assurance provided, within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice of cancellation of the bond from the surety.

(5) Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

(6) The penal sum of the bond must be in an amount at least equal to the current post-closure cost estimate, except as provided in § 265.145(f).

(7) Whenever the current post-closure cost estimate increases to an amount greater than the penal sum, the owner or operator, within 60 days after the increase, must either cause the penal sum to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current post-closure cost estimate decreases, the penal sum may be reduced to the amount of the current post-closure cost estimate following written approval by the Regional Administrator.

(8) Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the Regional Administrator. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and Regional Administrator, as eviden by the return receipts.

(9) The owner or operator cancel the bond if the Regional ministrator has given prior writ consent based on his receipt of dence of alternate financial assura as specified in this section.

(c) *Post-closure letter of credit.* An owner or operator may satisfy requirements of this section by obta ing an irrevocable standby letter credit which conforms to the requ ments of this paragraph and subm ting the letter to the Regional Adm istrator. The issuing institution m be an entity which has the author to issue letters of credit and wh letter-of-credit operations are regul ed and examined by a Federal or St agency.

(2) The wording of the letter credit must be identical to the word specified in § 264.151(d).

(3) An owner or operator who use letter of credit to satisfy the requi ments of this section must also est lish a standby trust fund. Under terms of the letter of credit, amounts paid pursuant to a draft the Regional Administrator will be posited by the issuing institution rectly into the standby trust fund accordance with instructions from Regional Administrator. This stand trust fund must meet the requi ments of the trust fund specified § 265.145(a), except that:

(i) An originally signed duplicate the trust agreement must be subm ted to the Regional Administra with the letter of credit; and

(ii) Unless the standby trust fund funded pursuant to the requiremen of this section, the following are required by these regulations:

(A) Payments into the trust fund specified in § 265.145(a);

(B) Updating of Schedule A of trust agreement (see § 264.151(a)) show current post-closure cost mates;

(C) Annual valuations as required the trust agreement; and

(D) Notices of nonpayment as quired by the trust agreement.

(4) The letter of credit must be a companied by a letter from the own

or operator referring to the letter of credit by number, issuing institution, and date, and providing the following information: The EPA Identification Number, name, and address of the facility, and the amount of funds assured for post-closure care of the facility by the letter of credit.

(5) The letter of credit must be irrevocable and issued for a period of at least 1 year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least 1 year unless, at least 120 days before the current expiration date, the issuing institution notifies both the owner or operator and the Regional Administrator by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the 120 days will begin on the date when both the owner or operator and the Regional Administrator have received the notice, as evidenced by the return receipts.

(6) The letter of credit must be issued in an amount at least equal to the current post-closure cost estimate, except as provided in § 265.145(f).

(7) Whenever the current post-closure cost estimate increases to an amount greater than the amount of the credit during the operating life of the facility, the owner or operator, within 60 days after the increase, must either cause the amount of the credit to be increased so that it at least equals the current post-closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the amount of the credit may be reduced to the amount of the current post-closure cost estimate following written approval by the Regional Administrator.

(8) During the period of post-closure care, the Regional Administrator may approve a decrease in the amount of the letter of credit if the owner or operator demonstrates to the Regional Administrator that the amount exceeds the remaining cost of post-closure care.

(9) Following a final administrative determination pursuant to section 3008 of RCRA that the owner or operator has failed to perform post-closure care in accordance with the approved post-closure plan and other permit requirements, the Regional Administrator may draw on the letter of credit.

(10) If the owner or operator does not establish alternate financial assurance as specified in this section and obtain written approval of such alternate assurance from the Regional Administrator within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the Regional Administrator will draw on the letter of credit. The Regional Administrator may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last 30 days of any such extension the Regional Administrator will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this section and obtain written approval of such assurance from the Regional Administrator.

(11) The Regional Administrator will return the letter of credit to the issuing institution for termination when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 265.145(h).

(d) *Post-closure insurance.* (1) An owner or operator may satisfy the requirements of this section by obtaining post-closure insurance which conforms to the requirements of this paragraph and submitting a certificate of such insurance to the Regional Administrator. By the effective date of these regulations the owner or operator must submit to the Regional Administrator a letter from an insurer stating that the insurer is considering issuance of post-closure insurance conforming to the requirements of this paragraph to the owner or operator. Within 90 days after the effective date of these regulations, the owner or operator must submit the certificate of insurance to the Regional Administrator or establish other financial assurance as specified in this section. At a minimum, the insurer must be licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

(2) The wording of the certificate of insurance must be identical to the wording specified in § 264.151(e).

(3) The post-closure insurance policy must be issued for a face amount at least equal to the current post-closure cost estimate, except as provided in § 265.145(f). The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

(4) The post-closure insurance policy must guarantee that funds will be available to provide post-closure care of the facility whenever the post-closure period begins. The policy must also guarantee that once post-closure care begins the insurer will be responsible for paying out funds, up to an amount equal to the face amount of the policy, upon the direction of the Regional Administrator, to such party or parties as the Regional Administrator specifies.

(5) An owner or operator or any other person authorized to perform post-closure care may request reimbursement for post-closure care expenditures by submitting itemized bills to the Regional Administrator. Within 60 days after receiving bills for post-closure care activities, the Regional Administrator will instruct the insurer to make reimbursements in those amounts as the Regional Administrator specifies in writing, if the Regional Administrator determines that the post-closure expenditures are in accordance with the approved post-closure plan or otherwise justified. If the Regional Administrator does not instruct the insurer to make such reimbursements, he will provide a detailed written statement of reasons.

(6) The owner or operator must maintain the policy in full force and effect until the Regional Adminis tor consents to termination of policy by the owner or operator specified in paragraph (d)(11) of section. Failure to pay the premi without substitution of alternate nancial assurance as specified in section, will constitute a signific violation of these regulations, ranting such remedy as the Regio Administrator deems necessary. S violation will be deemed to begin u receipt by the Regional Administra of a notice of future cancellation, mination, or failure to renew due nonpayment of the premium, rat than upon the date of expiration.

(7) Each policy most contain a pr sion allowing assignment of the pol to a successor owner or operator. S assignment may be conditional u consent of the insurer, provided s consent is not unreasonably refused

(8) The policy must provide that insurer may not cancel, terminate, fail to renew the policy except for f ure to pay the premium. The autom ic renewal of the policy must, a minimum, provide the insured w the option of renewal at the f amount of the expiring policy. If th is a failure to pay the premium, the surer may elect to cancel, termina or fail to renew the policy by sendi notice by certified mail to the ow or operator and the Regional Admin trator. Cancellation, termination, failure to renew may not occur, how er, during the 120 days beginning w the date of receipt of the notice both the Regional Administrator a the owner or operator, as evidenced the return receipts. Cancellation, t mination, or failure to renew may n occur and the policy will remain in f force and effect in the event that or before the date of expiration:

(i) The Regional Administrat deems the facility abandoned; or

(ii) Interim status is terminated revoked; or

(iii) Closure is ordered by the R gional Administrator or a U.S. distri court or other court of competent j risdiction; or

(iv) The owner or operator is name as debtor in a voluntary or involunta proceeding under Title 11 (Bankrup cy), U.S. Code; or

(v) The premium due is paid.

(9) Whenever the current post-closure cost estimate increases to an amount greater than the face amount of the policy during the operating life of the facility, the owner or operator, within 60 days after the increase, must either cause the face amount to be increased to an amount at least equal to the current post-closure cost estimate and submit evidence of such increase to the Regional Administrator, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current post-closure cost estimate decreases during the operating life of the facility, the face amount may be reduced to the amount of the current post-closure cost estimate following written approval by the Regional Administrator.

(10) Commencing on the date that liability to make payments pursuant to the policy accrues, the insurer will thereafter annually increase the face amount of the policy. Such increase must be equivalent to the face amounts of the policy, less any payments made, multiplied by an amount equivalent to 85 percent of the most recent investment rate or of the equivalent coupon-issue yield announced by the U.S. Treasury for 26-week Treasury securities.

(11) The Regional Administrator will give written consent to the owner or operator that he may terminate the insurance policy when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 265.145(h).

(e) *Financial test and corporate guarantee for post-closure care.* (1) An owner or operator may satisfy the requirements of this section by demonstrating that he passes a financial test as specified in this paragraph. To pass this test the owner or operator must meet the criteria either of paragraph (e)(1)(i) or (ii) of this section:

(i) The owner or operator must have:

(A) Two of the following three ratios: a ratio of total liabilities to net worth less than 2.0; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than 0.1; and a ratio of current assets to current liabilities greater than 1.5; and

(B) Net working capital and tangible net worth each at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least $10 million; and

(D) Assets in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

(ii) The owner or operator must have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's; and

(B) Tangible net worth at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates; and

(C) Tangible net worth of at least $10 million; and

(D) Assets located in the United States amounting to at least 90 percent of his total assets or at least six times the sum of the current closure and post-closure cost estimates and the current plugging and abandonment cost estimates.

(2) The phrase "current closure and post-closure cost estimates" as used in paragraph (e)(1) of this section refers to the cost estimates required to be shown in paragraphs 1-4 of the letter from the owner's or operator's chief financial officer (§ 264.151(f)). The phrase "current plugging and abandonment cost estimates" as used in paragraph (e)(1) of this section refers to the cost estimates required to be shown in paragraphs 1-4 of the letter from the owner's or operator's chief financial officer (§ 144.70(f) of this title).

(3) To demonstrate that he meets this test, the owner or operator must submit the following items to the Regional Administrator:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in § 264.151(f); and

(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(iii) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) The owner or operator may obtain an extension of the time allowed for submission of the documents specified in paragraph (e)(3) of this section if the fiscal year of the owner or operator ends during the 90 days prior to the effective date of these regulations and if the year-end financial statements for that fiscal year will be audited by an independent certified public accountant. The extension will end no later than 90 days after the end of the owner's or operator's fiscal year. To obtain the extension, the owner's or operator's chief financial officer must send, by the effective date of these regulations, a letter to the Regional Administrator of each Region in which the owner's or operator's facilities to be covered by the financial test are located. This letter from the chief financial officer must:

(i) Request the extension;

(ii) Certify that he has grounds to believe that the owner or operator meets the criteria of the financial test;

(iii) Specify for each facility to be covered by the test the EPA Identification Number, name, address, and the current closure and post-closure cost estimates to be covered by the test;

(iv) Specify the date ending the owner's or operator's latest complete fiscal year before the effective date of these regulations;

(v) Specify the date, no later t
days after the end of such fisca
when he will submit the docu
specified in paragraph (e)(3)
section; and

(vi) Certify that the year-end
cial statements of the owner or
tor for such fiscal year will be a
by an independent certified pub
countant.

(5) After the initial submiss
items specified in paragraph (e
this section, the owner or op
must send updated information
Regional Administrator within 9
after the close of each succ
fiscal year. This information mus
sist of all three items specified in
graph (e)(3) of this section.

(6) If the owner or operat
longer meets the requiremen
paragraph (e)(1) of this sectio
must send notice to the Region
ministrator of intent to establish
nate financial assurance as speci
this section. The notice must b
by certified mail within 90 days
the end of the fiscal year for
the year-end financial data show
the owner or operator no longer
the requirements. The owner or
tor must provide the alternate
cial assurance within 120 days
the end of such fiscal year.

(7) The Regional Administ
may, based on a reasonable belie
the owner or operator may no
meet the requirements of para
(e)(1) of this section, require r
of financial condition at any time
the owner or operator in additi
those specified in paragraph (e
this section. If the Regional Ad
trator finds, on the basis of su
ports or other information, tha
owner or operator no longer mee
requirements of paragraph (e)
this section, the owner or op
must provide alternate financial
ance as specified in this section
30 days after notification of s
finding.

(8) The Regional Administrato
disallow use of this test on the b
qualifications in the opinion exp
by the independent certified pub
countant in his report on exami
of the owner's or operator's fin
statements (see paragraph (e)(3)

this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Regional Administrator will evaluate other qualifications on an individual basis. The owner or operator must provide alternate financial assurance as specified in this section within 30 days after notification of the disallowance.

(9) During the period of post-closure care, the Regional Administrator may approve a decrease in the current post-closure cost estimate for which this test demonstrates financial assurance if the owner or operator demonstrates to the Regional Administrator that the amount of the cost estimate exceeds the remaining cost of post-closure care.

(10) The owner or operator is no longer required to submit the items specified in paragraph (e)(3) of this section when:

(i) An owner or operator substitutes alternate financial assurance as specified in this section; or

(ii) The Regional Administrator releases the owner or operator from the requirements of this section in accordance with § 265.145(h).

(11) An owner or operator may meet the requirements of this section by obtaining a written guarantee, hereafter referred to as "corporate guarantee." The guarantor must be the parent corporation of the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (e)(1) through (9) of this section and must comply with the terms of the corporate guarantee. The wording of the corporate guarantee must be identical to the wording specified in § 264.151(h). The corporate guarantee must accompany the items sent to the Regional Administrator as specified in paragraph (e)(3) of this section. The terms of the corporate guarantee must provide that:

(i) If the owner or operator fails to perform post-closure care of a facility covered by the corporate guarantee in accordance with the post-closure plan and other interim status requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in § 265.145(a) in the name of the owner or operator.

(ii) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the Regional Administrator. Cancellation may not occur, however, during the 120 days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the Regional Administrator, as evidenced by the return receipts.

(iii) If the owner or operator fails to provide alternate financial assurance as specified in this section and obtain the written approval of such alternate assurance from the Regional Administrator within 90 days after receipt by both the owner or operator and the Regional Administrator of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternate financial assurance in the name of the owner or operator.

(f) *Use of multiple financial mechanisms.* An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds, letters of credit, and insurance. The mechanisms must be as specified in paragraphs (a) through (d), respectively, of this section, except that it is the combination of mechanisms, rather than the single mechanism, which must provide financial assurance for an amount at least equal to the current post-closure cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, he may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more mechanisms. The Regional Administrator may use any or all of the mechanisms to provide for post-closure care of the facility.

(g) *Use of a financial mechanism for multiple facilities.* An owner or operator may use a financial assurance mechanism specified in this section to meet the requirements of this section for more than one facility. Evidence of financial assurance submitted to the Regional Administrator must include a list showing, for each facility, the EPA

Identification Number, name, address, and the amount of funds for post-closure care assured by the mechanism. If the facilities covered by the mechanism are in more than one Region, identical evidence of financial assurance must be submitted to and maintained with the Regional Administrators of all such Regions. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for post-closure care of any of the facilities covered by the mechanism, the Regional Administrator may direct only the amount of funds designated for that facility, unless the owner or operator agrees to the use of additional funds available under the mechanism.

(h) *Release of the owner or operator from the requirements of this section.* Within 60 days after receiving certifications from the owner or operator and an independent registered professional engineer that the post-closure care period has been completed in accordance with the approved post-closure plan, the Regional Administrator will notify the owner or operator in writing that he is no longer required by this section to maintain financial assurance for post-closure care of that unit, unless the Regional Administrator has reason to believe that post-closure care has not been in accordance with the approved post-closure plan. The Regional Administrator will provide the owner or operator a detailed written statement of any such reason to believe that post-closure care has not been in accordance with the approved post-closure plan.

[47 FR 15064, Apr. 7, 1982, as amended at 51 FR 16457, May 2, 1986]

§ 265.146 Use of a mechanism for financial assurance of both closure and post-closure care.

An owner or operator may satisfy the requirements for financial assurance for both closure and post-closure care for one or more facilities by using a trust fund, surety bond, letter of credit, insurance, financial test, or corporate guarantee that meets the specifications for the mechanism in bo §§ 265.143 and 265.145. The amount funds available through the mec nism must be no less than the sum funds that would be available if a arate mechanism had been establish and maintained for financial as ance of closure and of post-clos care.

§ 265.147 Liability requirements.

(a) *Coverage for sudden acciden occurrences.* An owner or operator o hazardous waste treatment, storage, disposal facility, or a group of such cilities, must demonstrate financial sponsibility for bodily injury and pr erty damage to third parties caused sudden accidental occurrences aris from operations of the facility group of facilities. The owner or op ator must have and maintain liabil coverage for sudden accidental occ rences in the amount of at least million per occurrence with an ann aggregate of at least $2 million, exc sive of legal defense costs. This liab ity coverage may be demonstrated specified in paragraphs (a) (1), (2), (4), (5), or (6) of this section:

(1) An owner or operator may de onstrate the required liability cov age by having liability insurance specified in this paragraph.

(2) An owner or operator may me the requirements of this section passing a financial test or using t guarantee for liability coverage specified in paragraph (g) of this s tion.

(3) An owner or operator may me the requirements of this section by taining a letter of credit for liabil coverage as specified in paragraph of this section.

(4) An owner or operator may me the requirements of this section by taining a surety bond for liability co erage as specified in paragraph (i) this section.

(5) An owner or operator may me the requirements of this section by taining a trust fund for liability cov age as specified in paragraph (j) this section.

(6) An owner or operator may de onstrate the required liability cov age through the use of combinatio

of insurance, financial test, guarantee, letter of credit, surety bond, and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated must total at least the minimum amounts required by this section. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under this paragraph, the owner or operator shall specify at least one such assurance as "primary" coverage and shall specify other assurance as "excess" coverage.

(7) An owner or operator shall notify the Regional Administrator in writing within 30 days (i) whenever a claim for bodily injury or property damages caused by the operation of a hazardous waste treatment, storage, or disposal facility is made against the owner or operator or an instrument providing financial assurance for liability coverage under this section and (ii) whenever the amount of financial assurance for liability coverage under this section provided by a financial instrument authorized by paragraphs (a)(1) through (a)(6) of this section is reduced.

(b) *Coverage for nonsudden accidental occurrences.* An owner or operator of a surface impoundment, landfill, or land treatment facility which is used to manage hazardous waste, or a group of such facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by nonsudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability coverage for nonsudden accidental occurrences in the amount of at least $3 million per occurrence with an annual aggregate of at least $6 million, exclusive of legal defense costs. An owner or operator who must meet the requirements of this section may combine the required per-occurrence coverage levels for sudden and nonsudden accidental occurrences into a single per-occurrence level, and combine the required annual aggregate coverage levels for sudden and nonsudden accidental occurrences into a single annual aggregate level. Owners or operators who combine coverage levels for sudden and nonsudden accidental occurrences must maintain liability coverage in the amount of at least $4 million per occurrence and $8 million annual aggregate. This liability coverage may be demonstrated as specified in paragraph (b) (1), (2), (3), (4), (5), or (6) of this section:

(1) An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this paragraph.

(2) An owner or operator may meet the requirements of this section by passing a financial test or using the guarantee for liability coverage as specified in paragraphs (f) and (g) of this section.

(3) An owner or operator may meet the requirements of this section by obtaining a letter of credit for liability coverage as specified in paragraph (h) of this section.

(4) An owner or operator may meet the requirements of this section by obtaining a surety bond for liability coverage as specified in paragraph (i) of this section.

(5) An owner or operator may meet the requirements of this section by obtaining a trust fund for liability coverage as specified in paragraph (j) of this section.

(6) An owner or operator may demonstrate the required liability coverage through the use of combinations of insurance, financial test, guarantee, letter of credit, surety bond, and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated must total at least the minimum amounts required by this section. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under this paragraph, the owner or operator shall specify at

least one such assurance as "primary" coverage and shall specify other assurance as "excess" coverage.

(7) An owner or operator shall notify the Regional Administrator in writing within 30 days (i) whenever a claim for bodily injury or property damages caused by the operation of a hazardous waste treatment, storage, or disposal facility is made against the owner or operator or an instrument providing financial assurance for liability coverage under this section and (ii) whenever the amount of financial assurance for liability coverage under this section provided by a financial instrument authorized by paragraphs (a)(1) through (a)(6) of this section is reduced.

(c) *Request for variance.* If an owner or operator can demonstrate to the satisfaction of the Regional Administrator that the levels of financial responsibility required by paragraph (a) or (b) of this section are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the owner or operator may obtain a variance from the Regional Administrator. The request for a variance must be submitted in writing to the Regional Administrator. If granted, the variance will take the form of an adjusted level of required liability coverage, such level to be based on the Regional Administrator's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. The Regional Administrator may require an owner or operator who requests a variance to provide such technical and engineering information as is deemed necessary by the Regional Administrator to determine a level of financial responsibility other than that required by paragraph (a) or (b) of this section. The Regional Administrator will process a variance request as if it were a permit modification request under § 270.41(a)(5) of this chapter and subject to the procedures of § 124.5 of this chapter. Notwithstanding any other provision, the Regional Administrator may hold a public hearing at his discretion or whenever he finds, on the basis of requests for a public hearing, a significant degree of pubic interest in a tentative decision to grant a variance.

(d) *Adjustments by the Regional Administrator.* If the Regional Administrator determines that the levels of financial responsibility required by paragraph (a) or (b) of this section are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the Regional Administrator may adjust the level of financial responsibility required under paragraph (a) or (b) of this section as may be necessary to protect human health and the environment. This adjusted level will be based on the Regional Administrator's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. In addition, if the Regional Administrator determines that there is a significant risk to human health and the environment from nonsudden accidental occurrences resulting from the operations of a facility that is not a surface impoundment, landfill, or land treatment facility, he may require that an owner or operator of the facility comply with paragraph (b) of this section. An owner or operator must furnish to the Regional Administrator, within a reasonable time, any information which the Regional Administrator requests to determine whether cause exists for such adjustments of level or type of coverage. The Regional Administrator will process an adjustment of the level of required coverage as if it were a permit modification under § 270.41(a)(5) of this chapter and subject to the procedures of § 124.5 of this chapter. Notwithstanding any other provision, the Regional Administrator may hold a public hearing at his discretion or whenever he finds, on the basis of requests for a public hearing, a significant degree of public interest in a tentative decision to adjust the level or type of required coverage.

(e) *Period of coverage.* Within 60 days after receiving certifications from the owner or operator and an independent registered professional engineer that final closure has been completed in accordance with the approved closure plan, the Regional Administrator will notify the owner or operator in writing that he is no longer required by this section to maintain liability coverage for that facility, unless the Regional Administrator has reason to believe that closure has not been in accordance with the approved closure plan.

(f) *Financial test for liability coverage.* (1) An owner or operator may satisfy the requirements of this section by demonstrating that he passes a financial test as specified in this paragraph. To pass this test the owner or operator must meet the criteria of paragraph (f)(1)(i) or (ii) of this section:

(i) The owner or operator must have:

(A) Net working capital and tangible net worth each at least six times the amount of liability coverage to be demonstrated by this test; and

(B) Tangible net worth of at least $10 million; and

(C) Assets in the United States amounting to either: (*1*) At least 90 percent of his total assets; or (*2*) at least six times the amount of liability coverage to be demonstrated by this test.

(ii) The owner or operator must have:

(A) A current rating for his most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's, or Aaa, Aa, A, or Baa as issued by Moody's; and

(B) Tangible net worth of at least $10 million; and

(C) Tangible net worth at least six times the amount of liability coverage to be demonstrated by this test; and

(D) Assets in the United States amounting to either: (*1*) At least 90 percent of his total assets; or (*2*) at least six times the amount of liability coverage to be demonstrated by this test.

(2) The phrase "amount of liability coverage" as used in paragraph (f)(1) of this section refers to the annual aggregate amounts for which coverage is required under paragraphs (a) and (b) of this section.

(3) To demonstrate that he meets this test, the owner or operator must submit the following three items to the Regional Administrator:

(i) A letter signed by the owner's or operator's chief financial officer and worded as specified in § 264.151(g). If an owner or operator is using the financial test to demonstrate both assurance for closure or post-closure care, as specified by §§ 264.143(f), 264.145(f), 265.143(e), and 265.145(e), *and* liability coverage, he must submit the letter specified in § 264.151(g) to cover both forms of financial responsibility; a separate letter as specified in § 264.151(f) is not required.

(ii) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year.

(iii) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(A) He has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year-end financial statements for the latest fiscal year with the amounts in such financial statements; and

(B) In connection with that procedure, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(4) The owner or operator may obtain a one-time extension of the time allowed for submission of the documents specified in paragraph (f)(3) of this section if the fiscal year of the owner or operator ends during the 90 days prior to the effective date of these regulations and if the year-end financial statements for that fiscal year will be audited by an independent certified public accountant. The extension will end no later than 90 days after the end of the owner's or operator's fiscal year. To obtain the extension, the owner's or operator's chief financial officer must send, by the effective date of these regulations, a letter to the Regional Administrator of each Region in which the owner's or operator's facilities to be covered by the financial test are located. This letter from the chief financial officer must:

(i) Request the extension;

(ii) Certify that he has grounds to believe that the owner or operator meets the criteria of the financial test;

(iii) Specify for each facility to be covered by the test the EPA Identification Number, name, address, the amount of liability coverage and, when applicable, current closure and post-closure cost estimates to be covered by the test;

(iv) Specify the date ending the owner's or operator's last complete fiscal year before the effective date of these regulations;

(v) Specify the date, no later than 90 days after the end of such fiscal year, when he will submit the documents specified in paragraph (f)(3) of this section; and

(vi) Certify that the year-end financial statements of the owner or operator for such fiscal year will be audited by an independent certified public accountant.

(5) After the initial submission of items specified in paragraph (f)(3) of this section, the owner or operator must send updated information to the Regional Administrator within 90 days after the close of each succeeding fiscal year. This information must consist of all three items specified in paragraph (f)(3) of this section.

(6) If the owner or operator no longer meets the requirements of paragraph (f)(1) of this section, he must obtain insurance for the entire amount of required liability coverage as specified in this section. Evidence of insurance must be submitted to the Regional Administrator within 90 days after the end of the fiscal year for which the year-end financial data show that the owner or operator no longer meets the test requirements.

(7) The Regional Administrator may disallow use of this test on the basis of qualifications in the opinion expressed by the independent certified public accountant in his report on examination of the owner's or operator's financial statements (see paragraph (f)(3)(ii) of this section). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The Regional Administrator will evaluate other qualifications on an individual basis. The owner or operator must provide evidence of insurance for the entire amount of required liability coverage as specified in this section within 30 days after notification of disallowance.

(g) *Guarantee for liability coverage.* (1) Subject to paragraph (g)(2) of this section, an owner or operator may meet the requirements of this section by obtaining a written guarantee, hereinafter referred to as "guarantee." The guarantor must be the direct or higher-tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" with the owner or operator. The guarantor must meet the requirements for owners or operators in paragraphs (f)(1) through (f)(6) of this section. The wording of the guarantee must be identical to the wording specified in § 264.151(h)(2) of this chapter. A certified copy of the guarantee must accompany the items sent to the Regional Administrator as specified in paragraph (f)(3) of this section. One of these items must be the letter from the guarantor's chief financial officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, this letter must describe the value received in consideration of the guarantee. If the guarantor is a firm with a "substantial business relationship" with the owner or operator, this letter must describe this "substantial business relationship" and the value received in consideration of the guarantee.

(i) If the owner or operator fails to satisfy a judgment based on a determination of liability for bodily injury or property damage to third parties caused by sudden or nonsudden accidental occurrences (or both as the case may be), arising from the operation of facilities covered by this corporate guarantee, or fails to pay an amount agreed to in settlement of claims arising from or alleged to arise from such injury or damage, the guarantor will do so up to the limits of coverage.

(ii) [Reserved]

(2)(i) In the case of corporations incorporated in the United States, a guarantee may be used to satisfy the requirements of this section only if the Attorneys General or Insurance

Commissioners of (A) the State in which the guarantor is incorporated, and (B) each State in which a facility covered by the guarantee is located have submitted a written statement to EPA that a guarantee executed as described in this section and § 264.151(h)(2) is a legally valid and enforceable obligation in that State.

(ii) In the case of corporations incorporated outside the United States, a guarantee may be used to satisfy the requirements of this section only if (A) the non-U.S. corporation has identified a registered agent for service of process in each State in which a facility covered by the guarantee is located and in the State in which it has its principal place of business, and if (B) the Attorney General or Insurance Commissioner of each State in which a facility covered by the guarantee is located and the State in which the guarantor corporation has its principal place of business, has submitted a written statement to EPA that a guarantee executed as described in this section and § 264.151(h)(2) is a legally valid and enforceable obligation in that State.

(h) *Letter of credit for liability coverage.* (1) An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit that conforms to the requirements of this paragraph and submitting a copy of the letter of credit to the Regional Administrator.

(2) The financial institution issuing the letter of credit must be an entity that has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by a Federal or State agency.

(3) The wording of the letter of credit must be identical to the wording specified in § 264.151(k) of this chapter.

(i) *Surety bond for liability coverage.* (1) An owner or operator may satisfy the requirements of this section by obtaining a surety bond that conforms to the requirements of this paragraph and submitting a copy of the bond to the Regional Administrator.

(2) The surety company issuing the bond must be among those listed as acceptable sureties on Federal bonds in the most recent Circular 570 of the U.S. Department of the Treasury.

(3) The wording of the surety bond must be identical to the wording specified in § 264.151(l) of this chapter.

(4) A surety bond may be used to satisfy the requirements of this section only if the Attorneys General or Insurance Commissioners of (i) the State in which the surety is incorporated, and (ii) each State in which a facility covered by the surety bond is located have submitted a written statement to EPA that a surety bond executed as described in this section and § 264.151(l) of this chapter is a legally valid and enforceable obligation in that State.

(j) *Trust fund for liability coverage.* (1) An owner or operator may satisfy the requirements of this section by establishing a trust fund that conforms to the requirements of this paragraph and submitting an originally signed duplicate of the trust agreement to the Regional Administrator.

(2) The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal or State agency.

(3) The trust fund for liability coverage must be funded for the full amount of the liability coverage to be provided by the trust fund before it may be relied upon to satisfy the requirements of this section. If at any time after the trust fund is created the amount of funds in the trust fund is reduced below the full amount of the liability coverage to be provided, the owner or operator, by the anniversary date of the establishment of the Fund, must either add sufficient funds to the trust fund to cause its value to equal the full amount of liability coverage to be provided, or obtain other financial assurance as specified in this section to cover the difference. For purposes of this paragraph, "the full amount of the liability coverage to be provided" means the amount of coverage for sudden and/or nonsudden occurrences required to be provided by the owner or operator by this section, less the amount of financial assurance for liability coverage that is being provided by other financial assurance mechanisms being used to demonstrate fi-

nancial assurance by the owner or operator.

(4) The wording of the trust fund must be identical to the wording specified in § 264.151(m) of this part.

(k) Notwithstanding any other provision of this part, an owner or operator using liability insurance to satisfy the requirements of this section may use, until October 16, 1982, a Hazardous Waste Facility Liability Endorsement or Certificate of Liability Insurance that does not certify that the insurer is licensed to transact the business of insurance, or eligible as an excess or surplus lines insurer, in one or more States.

(Approved by the Office of Management and Budget under control number 2000-0445, for paragraphs (a)(1)(i), (b)(1)(i), (b)(5), (c), (d), and (f) (3) through (6))

[47 FR 16558, Apr. 16, 1982, as amended at 47 FR 28627, July 1, 1982; 47 FR 30447, July 13, 1982; 48 FR 30115, June 30, 1983; 51 FR 16458, May 2, 1986; 51 FR 25355, July 11, 1986; 52 FR 44321, Nov. 18, 1987; 53 FR 33959, Sept. 1, 1988]

§ 265.148 Incapacity of owners or operators, guarantors, or financial institutions.

(a) An owner or operator must notify the Regional Administrator by certified mail of the commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming the owner or operator as debtor, within 10 days after commencement of the proceeding. A guarantor of a corporate guarantee as specified in §§ 265.143(e) and 265.145(e) must make such a notification if he is named as debtor, as required under the terms of the corporate guarantee (§ 264.151(h)).

(b) An owner or operator who fulfills the requirements of § 265.143, § 265.145, or § 265.147 by obtaining a trust fund, surety bond, letter of credit, or insurance policy will be deemed to be without the required financial assurance or liability coverage in the event of bankruptcy of the trustee or issuing institution, or a suspension or revocation of the authority of the trustee institution to act as trustee or of the institution issuing the surety bond, letter of credit, or insurance policy to issue such instruments. The owner or operator must establish other financial assurance or liability coverage within 60 days after such an event.

§ 265.149 Use of State-required mechanisms.

(a) For a facility located in a State where EPA is administering the requirements of this subpart but where the State has hazardous waste regulations that include requirements for financial assurance of closure or post-closure care or liability coverage, an owner or operator may use State-required financial mechanisms to meet the requirements of § 265.143, § 265.145, or § 265.147 if the Regional Administrator determines that the State mechanisms are at least equivalent to the financial mechanisms specified in this subpart. The Regional Administrator will evaluate the equivalency of the mechanisms principally in terms of (1) certainty of the availability of funds for the required closure or post-closure care activities or liability coverage and (2) the amount of funds that will be made available. The Regional Administrator may also consider other factors as he deems appropriate. The owner or operator must submit to the Regional Administrator evidence of the establishment of the mechanism together with a letter requesting that the State-required mechanism be considered acceptable for meeting the requirements of this subpart. The submission must include the following information: The facility's EPA Identification Number, name, and address, and the amount of funds for closure or post-closure care or liability coverage assured by the mechanism. The Regional Administrator will notify the owner or operator of his determination regarding the mechanism's acceptability in lieu of financial mechanisms specified in this subpart. The Regional Administrator may require the owner or operator to submit additional information as is deemed necessary to make this determination. Pending this determination, the owner or operator will be deemed to be in compliance with the requirements of § 265.143, § 265.145, or § 265.147, as applicable.

(b) If a State-required mechanism is found acceptable as specified in paragraph (a) of this section except for the amount of funds available, the owner or operator may satisfy the requirements of this subpart by increasing the funds available through the State-required mechanism or using additional financial mechanisms as specified in this subpart. The amount of funds available through the State and Federal mechanisms must at least equal the amount required by this subpart.

§ 265.150 State assumption of responsibility.

(a) If a State either assumes legal responsibility for an owner's or operator's compliance with the closure, post-closure care, or liability requirements of this part or assures that funds will be available from State sources to cover those requirements, the owner or operator will be in compliance with the requirements of § 265.143, § 265.145, or § 265.147 if the Regional Administrator determines that the State's assumption of responsibility is at least equivalent to the financial mechanisms specified in this subpart. The Regional Administrator will evaluate the equivalency of State guarantees principally in terms of (1) certainty of the availability of funds for the required closure or post-closure care activities or liability coverage and (2) the amount of funds that will be made available. The Regional Administrator may also consider other factors as he deems appropriate. The owner or operator must submit to the Regional Administrator a letter from the State describing the nature of the State's assumption of responsibility together with a letter from the owner or operator requesting that the State's assumption of responsibility be considered acceptable for meeting the requirements of this subpart. The letter from the State must include, or have attached to it, the following information: The facility's EPA Identification Number, name, and address, and the amount of funds for closure or post-closure care or liability coverage that are guaranteed by the State. The Regional Administrator will notify the owner or operator of his determination regarding the acceptability of the State's guarantee in lieu of financial mechanisms specified in this subpart. The Regional Administrator may require the owner or operator to submit additional information as is deemed necessary to make this determination. Pending this determination, the owner or operator will be deemed to be in compliance with the requirements of §§ 265.143, § 265.145, or § 265.147, as applicable.

(b) If a State's assumption of responsibility is found acceptable as specified in paragraph (a) of this section except for the amount of funds available, the owner or operator may satisfy the requirements of this subpart by use of both the State's assurance *and* additional financial mechanisms as specified in this subpart. The amount of funds available through the State and Federal mechanisms must at least equal the amount required by this subpart.

Subpart I—Use and Management of Containers

§ 265.170 Applicability.

The regulations in this subpart apply to owners and operators of all hazardous waste facilities that store containers of hazardous waste, except as § 265.1 provides otherwise.

§ 265.171 Condition of containers.

If a container holding hazardous waste is not in good condition, or if it begins to leak, the owner or operator must transfer the hazardous waste from this container to a container that is in good condition, or manage the waste in some other way that complies with the requirements of this part.

§ 265.172 Compatibility of waste with container.

The owner or operator must use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired.

§ 265.173 Management of containers.

(a) A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste.

(b) A container holding hazardous waste must not be opened, handled, or stored in a manner which may rupture the container or cause it to leak.

[*Comment:* Re-use of containers in transportation is governed by U.S. Department of Transportation regulations, including those set forth in 49 CFR 173.28.]

[45 FR 33232, May 19, 1980, as amended at 45 FR 78529, Nov. 25, 1980]

§ 265.174 Inspections.

The owner or operator must inspect areas where containers are stored, at least weekly, looking for leaks and for deterioration caused by corrosion or other factors.

[*Comment:* See § 265.171 for remedial action required if deterioration or leaks are detected.]

§ 265.175 [Reserved]

§ 265.176 Special requirements for ignitable or reactive waste.

Containers holding ignitable or reactive waste must be located at least 15 meters (50 feet) from the facility's property line.

[*Comment:* See § 265.17(a) for additional requirements.]

§ 265.177 Special requirements for incompatible wastes.

(a) Incompatible wastes, or incompatible wastes and materials, (see Appendix V for examples) must not be placed in the same container, unless § 265.17(b) is complied with.

(b) Hazardous waste must not be placed in an unwashed container that previously held an incompatible waste or material (see Appendix V for examples), unless § 265.17(b) is complied with.

(c) A storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments must be separated from the other materials or protected from them by means of a dike, berm, wall, or other device.

[*Comment:* The purpose of this is to prevent fires, explosions, gaseous emissions, leaching, or other discharge of hazardous w or hazardous waste constituents wh could result from the mixing of incomp ble wastes or materials if containers br or leak.]

Subpart J—Tank Systems

Source: 51 FR 25479, July 14, 1986, un otherwise noted.

§ 265.190 Applicability.

The regulations of this subp apply to owners or operators of fac ties that use tank systems for stor or treating hazardous waste, except otherwise provided in paragraphs and (b) of this section or in § 265.1 this part.

(a) Tank systems that are used store or treat hazardous waste wh contains no free liquids and that situated inside a building with an permeable floor are exempted fr the requirements in § 265.193. To de onstrate the absence or presence free liquids in the stored/trea waste, EPA Method 9095 (Paint Fil Liquids Test) as described in "T Methods for Evaluating Solid Wast Physical/Chemical Methods" (E Publication No. SW-846) must be us

(b) Tank systems, including sum as defined in § 260.10, that serve part of a secondary containme system to collect or contain releases hazardous wastes are exempted fr the requirements in § 265.193(a).

(Information collection requirement c tained in paragraph (a) was approved by t Office of Management and Budget un control number 2050-0050)

[51 FR 25479, July 14, 1986, as amended 53 FR 34087, Sept. 2, 1988]

§ 265.191 Assessment of existing tank s tem's integrity.

(a) For each existing tank syste that does not have secondary contai ment meeting the requirements § 265.193, the owner or operator m determine that the tank system is n leaking or is unfit for use. Except provided in paragraph (c) of this s tion, the owner or operator m obtain and keep on file at the facil a written assessment reviewed and ce tified by an independent, qualifie registered professional engineer in cordance with § 270.11(d), that attests to the tank system's integrity by January 12, 1988.

(b) This assessment must determine that the tank system is adequately designed and has sufficient structural strength and compatibility with the waste(s) to be stored or treated to ensure that it will not collapse, rupture, or fail. At a minimum, this assessment must consider the following:

(1) Design standard(s), if available, according to which the tank and ancillary equipment were constructed;

(2) Hazardous characteristics of the waste(s) that have been or will be handled;

(3) Existing corrosion protection measures;

(4) Documented age of the tank system, if available, (otherwise, an estimate of the age); and

(5) Results of a leak test, internal inspection, or other tank integrity examination such that:

(i) For non-enterable underground tanks, this assessment must consist of a leak test that is capable of taking into account the effects of temperature variations, tank end deflection, vapor pockets, and high water table effects,

(ii) For other than non-enterable underground tanks and for ancillary equipment, this assessment must be either a leak test, as described above, or an internal inspection and/or other tank integrity examination certified by an independent, qualified, registered professional engineer in accordance with § 270.11(d) that addresses cracks, leaks, corrosion, and erosion.

[NOTE: The practices described in the American Petroleum Institute (API) Publication, Guide for Inspection of Refinery Equipment, Chapter XIII, "Atmospheric and Low-Pressure Storage Tanks," 4th edition, 1981, may be used, where applicable, as guidelines in conducting the integrity examination of an other than non-enterable underground tank system.]

(c) Tank systems that store or treat materials that become hazardous wastes subsequent to July 14, 1986 must conduct this assessment within 12 months after the date that the waste becomes a hazardous waste.

(d) If, as a result of the assessment conducted in accordance with paragraph (a) of this section, a tank system is found to be leaking or unfit for use, the owner or operator must comply with the requirements of § 265.196.

(Information collection requirements contained in paragraphs (a)-(d) were approved by the Office of Management and Budget under control number 2050-0050)

§ 265.192 Design and installation of new tank systems or components.

(a) Owners or operators of new tank systems or components must ensure that the foundation, structural support, seams, connections, and pressure controls (if applicable) are adequately designed and that the tank system has sufficient structural strength, compatibility with the waste(s) to be stored or treated, and corrosion protection so that it will not collapse, rupture, or fail. The owner or operator must obtain a written assessment reviewed and certified by an independent, qualified, registered professional engineer in accordance with § 270.11(d) attesting that the system has sufficient structural integrity and is acceptable for the storing and treating of hazardous waste. This assessment must include, at a minimum, the following information:

(1) Design standard(s) according to which the tank(s) and ancillary equipment is or will be constructed.

(2) Hazardous characteristics of the waste(s) to be handled.

(3) For new tank systems or components in which the external shell of a metal tank or any external metal component of the tank system is or will be in contact with the soil or with water, a determination by a corrosion expert of:

(i) Factors affecting the potential for corrosion, including but not limited to:

(A) Soil moisture content;

(B) Soil pH;

(C) Soil sulfides level;

(D) Soil resistivity;

(E) Structure to soil potential;

(F) Influence of nearby underground metal structures (e.g., piping);

(G) Stray electric current; and,

(H) Existing corrosion-protection measures (e.g., coating, cathodic protection), and

(ii) The type and degree of external corrosion protection that are needed to ensure the integrity of the tank system during the use of the tank system or component, consisting of one or more of the following:

(A) Corrosion-resistant materials of construction such as special alloys or fiberglass-reinforced plastic;

(B) Corrosion-resistant coating (such as epoxy or fiberglass) with cathodic protection (e.g., impressed current or sacrificial anodes); and

(C) Electrical isolation devices such as insulating joints and flanges.

NOTE: The practices described in the National Association of Corrosion Engineers (NACE) standard, "Recommended Practice (RP-02-85)—Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems," and the American Petroleum Institute (API) Publication 1632, "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems," may be used, where applicable, as guidelines in providing corrosion protection for tank systems.

(4) For underground tank system components that are likely to be affected by vehicular traffic, a determination of design or operational measures that will protect the tank system against potential damage; and

(5) Design considerations to ensure that:

(i) Tank foundations will maintain the load of a full tank;

(ii) Tank systems will be anchored to prevent flotation or dislodgement where the tank system is placed in a saturated zone, or is located within a seismic fault zone; and

(iii) Tank systems will withstand the effects of frost heave.

(b) The owner or operator of a new tank system must ensure that proper handling procedures are adhered to in order to prevent damage to the system during installation. Prior to covering, enclosing, or placing a new tank system or component in use, an independent, qualified installation inspector or an independent, qualified, registered professional engineer, either of whom is trained and experienced in the proper installation of tank systems, must inspect the system or component for the presence of any of t following items:

(1) Weld breaks;

(2) Punctures;

(3) Scrapes of protective coatings;

(4) Cracks;

(5) Corrosion;

(6) Other structural damage or in equate construction or installation.

All discrepancies must be remedi before the tank system is covered, e closed, or placed in use.

(c) New tank systems or componen and piping that are placed unde ground and that are backfilled mu be provided with a backfill materi that is a noncorrosive, porous, hom geneous substance and that is carefu ly installed so that the backfill placed completely around the ta and compacted to ensure that the tan and piping are fully and uniforml supported.

(d) All new tanks and ancillar equipment must be tested for tigh ness prior to being covered, enclose or placed in use. If a tank system i found not to be tight, all repairs nece sary to remedy the leak(s) in th system must be performed prior to th tank system being covered, enclosed or placed in use.

(e) Ancillary equipment must be sup ported and protected against physic damage and excessive stress due to se tlement, vibration, expansion or con traction.

NOTE: The piping system installation pr cedures described in American Petroleu Institute (API) Publication 1615 (Novembe 1979), "Installation of Underground Petrole um Storage Systems," or ANSI Standar B31.3, "Petroleum Refinery System," ma be used, where applicable, as guidelines fo proper installation of piping systems.

(f) The owner or operator must pr vide the type and degree of corrosio protection necessary, based on the in formation provided under paragrap (a)(3) of this section, to ensure the in tegrity of the tank system during us of the tank system. The installation o a corrosion protection system that i field fabricated must be supervised b an independent corrosion expert t ensure proper installation.

(g) The owner or operator mus obtain and keep on file at the facilit written statements by those persons required to certify the design of the tank system and supervise the installation of the tank system in accordance with the requirements of paragraphs (b) through (f) of this section to attest that the tank system was properly designed and installed and that repairs, pursuant to paragraphs (b) and (d) of this section were performed. These written statements must also include the certification statement as required in § 270.11(d) of this chapter.

(Information collection requirements contained in paragraphs (a) and (g) were approved by the Office of Management and Budget under control number 2050-0050)

[51 FR 25479, July 14, 1986; 51 FR 29430, Aug. 15, 1986]

§ 265.193 Containment and detection of releases.

(a) In order to prevent the release of hazardous waste or hazardous constituents to the environment, secondary containment that meets the requirements of this section must be provided (except as provided in paragraphs (f) and (g) of this section):

(1) For all new tank systems or components, prior to their being put into service;

(2) For all existing tanks used to store or treat EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, and F027, within two years after January 12, 1987;

(3) For those existing tank systems of known and documentable age, within two years after January 12, 1987, or when the tank systems have reached 15 years of age, whichever comes later;

(4) For those existing tank system for which the age cannot be documented, within eight years of January 12, 1987; but if the age of the facility is greater than seven years, secondary containment must be provided by the time the facility reaches 15 years of age, or within two years of January 12, 1987, whichever comes later; and

(5) For tank systems that store or reat materials that become hazardous wastes subsequent to January 12, 1987, within the time intervals required in paragraphs (a)(1) through (a)(4) of his section, except that the date that a material becomes a hazardous waste must be used in place of January 12, 1987.

(b) Secondary containment systems must be:

(1) Designed, installed, and operated to prevent any migration of wastes or accumulated liquid out of the system to the soil, ground water, or surface water at any time during the use of the tank system; and

(2) Capable of detecting and collecting releases and accumulated liquids until the collected material is removed.

(c) To meet the requirements of paragraph (b) of this section, secondary containment systems must be at a minimum:

(1) Constructed of or lined with materials that are compatible with the waste(s) to be placed in the tank system and must have sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrological forces), physical contact with the waste to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation (including stresses from nearby vehicular traffic);

(2) Placed on a foundation or base capable of providing support to the secondary containment system and resistance to pressure gradients above and below the system and capable of preventing failure due to settlement, compression, or uplift;

(3) Provided with a leak detection system that is designed and operated so that it will detect the failure of either the primary and secondary containment structure or any release of hazardous waste or accumulated liquid in the secondary containment system within 24 hours, or at the earliest practicable time if the existing detection technology or site conditions will not allow detection of a release within 24 hours;

(4) Sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation. Spilled or leaked waste and accumulated precipitation must be removed from the secondary containment system within 24 hours, or in as timely a manner as is possible to prevent harm to human health or the en-

vironment, if removal of the released waste or accumulated precipitation cannot be accomplished within 24 hours.

Note: If the collected material is a hazardous waste under Part 261 of this chapter, it is subject to management as a hazardous waste in accordance with all applicable requirements of Parts 262 through 265 of this chapter. If the collected material is discharged through a point source to waters of the United States, it is subject to the requirements of sections 301, 304, and 402 of the Clean Water Act, as amended. If discharged to Publicly Owned Treatment Works (POTWs), it is subject to the requirements of section 307 of the Clear Water Act, as amended. If the collected material is released to the environment, it may be subject to the reporting requirements of 40 CFR Part 302.

(d) Secondary containment for tanks must include one or more of the following devices:

(1) A liner (external to the tank);

(2) A vault;

(3) A double-walled tank; or

(4) An equivalent device as approved by the Regional Administrator.

(e) In addition to the requirements of paragraphs (b), (c), and (d) of this section, secondary containment systems must satisfy the following requirements:

(1) External liner systems must be:

(i) Designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;

(ii) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a 25-year, 24-hour rainfall event;

(iii) Free of cracks or gaps; and

(iv) Designed and installed to completely surround the tank and to cover all surrounding earth likely to come into contact with the waste if released from the tank(s) (i.e., capable of preventing lateral as well as vertical migration of the waste).

(2) Vault systems must be:

(i) Designed or operated to contain 100 percent of the capacity of the largest tank within its boundary;

(ii) Designed or operated to prev run-on or infiltration of precipitat into the secondary containm system unless the collection syst has sufficient excess capacity to c tain run-on or infiltration. Such ad tional capacity must be sufficient contain precipitation from a 25-ye 24-hour rainfall event;

(iii) Constructed with chemical- sistant water stops in place at joints (if any);

(iv) Provided with an impermeal interior coating or lining that is co patible with the stored waste and th will prevent migration of waste in the concrete;

(v) Provided with a means to prote against the formation of and igniti of vapors within the vault, if the was being stored or treated:

(A) Meets the definition of ignitab waste under § 262.21 of this chapte or

(B) Meets the definition of reacti waste under § 262.21 of this chapt and may form an ignitable or expl sive vapor; and

(vi) Provided with an exterior moi ture barrier or be otherwise designe or operated to prevent migration o moisture into the vault if the vault i subject to hydraulic pressure.

(3) Double-walled tanks must be:

(i) Designed as an integral structur (i.e., an inner tank within an oute shell) so that any release from th inner tank is contained by the oute shell;

(ii) Protected, if constructed o metal, from both corrosion of the pr mary tank interior and the externa surface of the outer shell; and

(iii) Provided with a built-in, contin uous leak detection system capable o detecting a release within 24 hours o at the earliest practicable time, if th owner or operator can demonstrate t the Regional Administrator, and th Regional Administrator concurs, th the existing leak detection technolog or site conditions will not allow dete tion of a release within 24 hours.

Note: The provisions outlined in the Ste Tank Institute's (STI) "Standard for Du Wall Underground Steel Storage Tan may be used as guidelines for aspects of th design of underground steel double-wal tanks.

(f) Ancillary equipment must be provided with full secondary containment (e.g., trench, jacketing, double-walled piping) that meets the requirements of paragraphs (b) and (c) of this section except for:

(1) Aboveground piping (exclusive of flanges, joints, valves, and connections) that are visually inspected for leaks on a daily basis;

(2) Welded flanges, welded joints, and welded connections that are visually inspected for leaks on a daily basis;

(3) Sealless or magnetic coupling pumps and sealless valves, that are visually inspected for leaks on a daily basis; and

(4) Pressurized aboveground piping systems with automatic shut-off devices (e.g., excess flow check valves, flow metering shutdown devices, loss of pressure actuated shut-off devices) that are visually inspected for leaks on a daily basis.

(g) The owner or operator may obtain a variance from the requirements of this Section if the Regional Administrator finds, as a result of a demonstration by the owner or operator, either: that alternative design and operating practices, together with location characteristics, will prevent the migration of hazardous waste or hazardous constituents into the ground water or surface water at least as effectively as secondary containment during the active life of the tank system or that in the event of a release that does migrate to ground water or surface water, no substantial present or potential hazard will be posed to human health or the environment. New underground tank systems may not, per a demonstration in accordance with paragraph (g)(2) of this section, be exempted from the secondary containment requirements of this section. Application for a variance as allowed in paragraph (g) of this section does not waive compliance with the requirements of this subpart for new tank systems. (1) In deciding whether to grant a variance based on a demonstration of equivalent protection of ground water and surface water, the Regional Administrator will consider:

(i) The nature and quantity of the waste;

(ii) The proposed alternate design and operation;

(iii) The hydrogeologic setting of the facility, including the thickness of soils between the tank system and ground water; and

(iv) All other factors that would influence the quality and mobility of the hazardous constituents and the potential for them to migrate to ground water or surface water.

(2) In deciding whether to grant a variance, based on a demonstration of no substantial present or potential hazard, the Regional Administrator will consider:

(i) The potential adverse effects on ground water, surface water, and land quality taking into account:

(A) The physical and chemical characteristics of the waste in the tank system, including its potential for migration,

(B) The hydrogeological characteristics of the facility and surrounding land,

(C) The potential for health risks caused by human exposure to waste constituents,

(D) The potential for damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents, and

(E) The persistence and permanence of the potential adverse effects;

(ii) The potential adverse effects of a release on ground-water quality, taking into account:

(A) The quantity and quality of ground water and the direction of ground-water flow,

(B) The proximity and withdrawal rates of water in the area,

(C) The current and future uses of ground water in the area, and

(D) The existing quality of ground water, including other sources of contamination and their cumulative impact on the ground-water quality;

(iii) The potential adverse effects of a release on surface water quality, taking into account:

(A) The quantity and quality of ground water and the direction of ground-water flow,

(B) The patterns of rainfall in the region,

(C) The proximity of the tank system to surface waters,

(D) The current and future uses of surface waters in the area and any water quality standards established for those surface waters, and

(E) The existing quality of surface water, including other sources of contamination and the cumulative impact on surface-water quality; and

(iv) The potential adverse effects of a release on the land surrounding the tank system, taking into account:

(A) The patterns of rainfall in the region, and

(B) The current and future uses of the surrounding land.

(3) The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of paragraph (g)(1) of this section, at which a release of hazardous waste has occurred from the primary tank system but has not migrated beyond the zone of engineering control (as established in the variance), must:

(i) Comply with the requirements of § 265.196, except paragraph (d); and

(ii) Decontaminate or remove contaminated soil to the extent necessary to:

(A) Enable the tank system, for which the variance was granted, to resume operation with the capability for the detection of and response to releases at least equivalent to the capability it had prior to the release, and

(B) Prevent the migration of hazardous waste or hazardous constituents to ground water or surface water; and

(iii) If contaminated soil cannot be removed or decontaminated in accordance with paragraph (g)(3)(ii) of this section, comply with the requirements of § 265.197(b);

(4) The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of paragraph (g)(1) of this section, at which a release of hazardous waste has occurred from the primary tank system and has migrated beyond the zone of engineering control (as established in the variance), must:

(i) Comply with the requirements of § 265.196(a), (b), (c), and (d); and

(ii) Prevent the migration of haza ous waste or hazardous constituents ground water or surface water, if p sible, and decontaminate or remo contaminated soil. If contamina soil cannot be decontaminated or moved, or if ground water has be contaminated, the owner or opera must comply with the requirements § 265.197(b);

(iii) If repairing, replacing, or re stalling the tank system, provide s ondary containment in accordar with the requirements of paragra (a) through (f) of this section or re ply for a variance from secondary co tainment and meet the requireme for new tank systems in § 265.192 the tank system is replaced. T owner or operator must comply w these requirements even if conta nated soil can be decontaminated removed, and ground water or surfa water has not been contaminated.

(h) The following procedures m be followed in order to request a va ance from secondary containment:

(1) The Regional Administra must be notified in writing by t owner or operator that he intends conduct and submit a demonstrati for a variance from secondary conta ment as allowed in paragraph (g) this section according to the followi schedule:

(i) For existing tank systems, at lea 24 months prior to the date that se ondary containment must be provid in accordance with paragraph (a) this section; and

(ii) For new tank systems, at least days prior to entering into a contra for installation of the tank system.

(2) As part of the notification, th owner or operator must also submit the Regional Administrator a descri tion of the steps necessary to condu the demonstration and a timetable f completing each of the steps. Th demonstration must address each the factors listed in paragraph (g)(or paragraph (g)(2) of this section.

(3) The demonstration for a varian must be completed and submitted the Regional Administrator within 18 days after notifying the Regional A ministrator of intent to conduct th demonstration.

(4) The Regional Administrator will inform the public, through a newspaper notice, of the availability of the demonstration for a variance. The notice shall be placed in a daily or weekly major local newspaper of general circulation and shall provide at least 30 days from the date of the notice for the public to review and comment on the demonstration for a variance. The Regional Administrator also will hold a public hearing, in response to a request or at his own discretion, whenever such a hearing might clarify one or more issues concerning the demonstration for a variance. Public notice of the hearing will be given at least 30 days prior to the date of the hearing and may be given at the same time as notice of the opportunity for the public to review and comment on the demonstration. These two notices may be combined.

(5) The Regional Administrator will approve or disapprove the request for a variance within 90 days of receipt of the demonstration from the owner or operator and will notify in writing the owner or operator and each person who submitted written comments or requested notice of the variance decision. If the demonstration for a variance is incomplete or does not include sufficient information, the 90-day time period will begin when the Regional Administrator receives a complete demonstration, including all information necessary to make a final determination. If the public comment period in paragraph (h)(4) of this section is extended, the 90-day time period will be similarly extended.

(i) All tank systems, until such time as secondary containment meeting the requirements of this section is provided, must comply with the following:

(1) For non-enterable underground tanks, a leak test that meets the requirements of § 265.191(b)(5) must be conducted at least annually;

(2) For other than non-enterable underground tanks and for all ancillary equipment, an annual leak test, as described in paragraph (i)(1) of this section, or an internal inspection or other tank integrity examination by an independent, qualified, registered professional engineer that addresses cracks, leaks, corrosion, and erosion must be conducted at least annually. The owner or operator must remove the stored waste from the tank, if necessary, to allow the condition of all internal tank surfaces to be assessed.

NOTE: The practices described in the American Petroleum Institute (API) Publication Guide for Inspection of Refining Equipment, Chapter XIII, "Atmospheric and Low Pressure Storage Tanks," 4th edition, 1981, may be used, when applicable, as guidelines for assessing the overall condition of the tank system.

(3) The owner or operator must maintain on file at the facility a record of the results of the assessments conducted in accordance with paragraphs (i)(1) through (i)(3) of this section.

(4) If a tank system or component is found to be leaking or unfit-for-use as a result of the leak test or assessment in paragraphs (i)(1) through (i)(3) of this section, the owner or operator must comply with the requirements of § 265.196.

(Information collection requirements contained in paragraphs (c)-(e) and (g)-(i) were approved by the Office of Management and Budget under control number 2050-0050)

[51 FR 25479, July 14, 1986; 51 FR 29430, Aug. 15, 1986, as amended at 53 FR 34087, Sept. 2, 1988]

§ 265.194 General operating requirements.

(a) Hazardous wastes or treatment reagents must not be placed in a tank system if they could cause the tank, its ancillary equipment, or the secondary containment system to rupture, leak, corrode, or otherwise fail.

(b) The owner or operator must use appropriate controls and practices to prevent spills and overflows from tank or secondary containment systems. These include at a minimum:

(1) Spill prevention controls (e.g., check valves, dry discount couplings);

(2) Overfill prevention controls (e.g., level sensing devices, high level alarms, automatic feed cutoff, or bypass to a standby tank); and

(3) Maintenance of sufficient freeboard in uncovered tanks to prevent overtopping by wave or wind action or by precipitation.

(c) The owner or operator must comply with the requirements of

§ 265.196 if a leak or spill occurs in the tank system.

(Information collection requirements contained in paragraph (c) were approved by the Office of Management and Budget under control number 2050-0050)

§ 265.195 Inspections.

(a) The owner or operator must inspect, where present, at least once each operating day:

(1) Overfill/spill control equipment (e.g., waste-feed cutoff systems, bypass systems, and drainage systems) to ensure that it is in good working order;

(2) The aboveground portions of the tank system, if any, to detect corrosion or releases of waste;

(3) Data gathered from monitoring equipment and leak-detection equipment, (e.g., pressure and temperature gauges, monitoring wells) to ensure that the tank system is being operated according to its design; and

(4) The construction materials and the area immediately surrounding the externally accessible portion of the tank system including secondary containment structures (e.g., dikes) to detect erosion or signs of releases of hazardous waste (e.g., wet spots, dead vegetation);

NOTE: Section 265.15(c) requires the owner or operator to remedy any deterioration or malfunction he finds. Section 265.196 requires the owner or operator to notify the Regional Administrator within 24 hours of confirming a release. Also, 40 CFR Part 302 may require the owner or operator to notify the National Response Center of a release.

(b) The owner or operator must inspect cathodic protection systems, if present, according to, at a minimum, the following schedule to ensure that they are functioning properly:

(1) The proper operation of the cathodic protection system must be confirmed within six months after initial installation, and annually thereafter; and

(2) All sources of impressed current must be inspected and/or tested, as appropriate, at least bimonthly (i.e., every other month).

NOTE: The practices described in the National Association of Corrosion Engineers (NACE) standard, "Recommended Practice (RP-02-85)—Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems," and th American Petroleum Institute (API) Pub cation 1632, "Cathodic Protection of Unde ground Petroleum Storage Tanks a Piping Systems," may be used, where app cable, as guidelines in maintaining and i specting cathodic protection systems.

(c) The owner or operator must do ument in the operating record of th facility an inspection of those items i paragraphs (a) and (b) of this section

(Information collection requirements co tained in paragraphs (a)-(c) were approve by the Office of Management and Budge under control number 2050-0050)

§ 265.196 Response to leaks or spills a disposition of leaking or unfit-for- tank systems.

A tank system or secondary containment system from which there h been a leak or spill, or which is unf for use, must be removed from servic immediately, and the owner or opera tor must satisfy the following requir ments:

(a) *Cessation of use; prevent flow o addition of wastes.* The owner or ope ator must immediately stop the flo of hazardous waste into the ta system or secondary containme system and inspect the system to d termine the cause of the release.

(b) *Removal of waste from ta system or secondary containme system.* (1) If the release was from th tank system, the owner or operat must, within 24 hours after detecti of the leak or, if the owner or operat demonstrates that that is not possibl at the earliest practicable time remo as much of the waste as is necessary t prevent further release of hazardo waste to the environment and to allo inspection and repair of the ta system to be performed.

(2) If the release was to a second containment system, all released ma rials must be removed within 24 hou or in as timely a manner as is possib to prevent harm to human health a the environment.

(c) *Containment of visible releases t the environment.* The owner or ope tor must immediately conduct a visu inspection of the release and, bas upon that inspection:

1) Prevent further migration of the
k or spill to soils or surface water;
d

2) Remove, and properly dispose of,
y visible contamination of the soil
surface water.

d) *Notifications, reports.* (1) Any re-
se to the environment, except as
ovided in paragraph (d)(2) of this
tion, must be reported to the Re-
nal Administrator within 24 hours
detection. If the release has been
orted pursuant to 40 CFR Part 302,
at report will satisfy this require-
nt.

2) A leak or spill of hazardous waste
at is:

i) Less than or equal to a quantity
one (1) pound, and

ii) Immediately contained and
aned-up is exempted from the re-
irements of this paragraph.

3) Within 30 days of detection of a
ease to the environment, a report
taining the following information
st be submitted to the Regional Ad-
nistrator:

i) Likely route of migration of the
ease;

ii) Characteristics of the surround-
soil (soil composition, geology, hy-
geology, climate);

iii) Results of any monitoring or
npling conducted in connection
h the release, (if available). If sam-
ng or monitoring data relating to
release are not available within 30
s, these data must be submitted to
Regional Administrator as soon as
y become available.;

v) Proximity to downgradient
nking water, surface water, and
ulation areas; and

v) Description of response actions
en or planned.

e) *Provision of secondary contain-*
nt, repair, or closure. (1) Unless the
ner or operator satisfies the re-
rements of paragraphs (e) (2)
ough (4) of this section, the tank
tem must be closed in accordance
h § 265.197.

2) If the cause of the release was a
l that has not damaged the integri-
of the system, the owner/operator
y return the system to service as
n as the released waste is removed
l repairs, if necessary, are made.

(3) If the cause of the release was a leak from the primary tank system into the secondary containment system, the system must be repaired prior to returning the tank system to service.

(4) If the source of the release was a leak to the environment from a component of a tank system without secondary containment, the owner/operator must provide the component of the system from which the leak occurred with secondary containment that satisfies the requirements of § 265.193 before it can be returned to service, unless the source of the leak is an aboveground portion of a tank system. If the source is an aboveground component that can be inspected visually, the component must be repaired and may be returned to service without secondary containment as long as the requirements of paragraph (f) of this section are satisfied. If a component is replaced to comply with the requirements of this subparagraph, that component must satisfy the requirements for new tank systems or components in §§ 265.192 and 265.193. Additionally, if a leak has occurred in any portion of a tank system component that is not readily accessible for visual inspection (e.g., the bottom of an inground or onground tank), the entire component must be provided with secondary containment in accordance with § 265.193 prior to being returned to use.

(f) *Certification of major repairs.* If the owner or operator has repaired a tank system in accordance with paragraph (e) of this section, and the repair has been extensive (e.g., installation of an internal liner; repair of a ruptured primary containment or secondary containment vessel), the tank system must not be returned to service unless the owner/operator has obtained a certification by an independent, qualified, registered professional engineer in accordance with § 270.11(d) that the repaired system is capable of handling hazardous wastes without release for the intended life of the system. This certification must be submitted to the Regional Administrator within seven days after returning the tank system to use.

Note: The Regional Administrator may, on the basis of any information received that there is or has been a release of hazardous waste or hazardous constituents into the environment, issue an order under RCRA section 3004(v), 3008(h), or 7003(a) requiring corrective action or such other response as deemed necessary to protect human health or the environment.

Note: See § 265.15(c) for the requirements necessary to remedy a failure. Also, 40 CFR Part 302 requires the owner or operator to notify the National Response Center of a release of any "reportable quantity."

(Information collection requirements contained in paragraphs (d)-(f) were approved by the Office of Management and Budget under control number 2050-0050)

[51 FR 25479, July 14, 1986, as amended at 53 FR 34087, Sept. 2, 1988]

§ 265.197 Closure and post-closure care.

(a) At closure of a tank system, the owner or operator must remove or decontaminate all waste residues, contaminated containment system components (liners, etc.), contaminated soils, and structures and equipment contaminated with waste, and manage them as hazardous waste, unless § 261.3(d) of this Chapter applies. The closure plan, closure activities, cost estimates for closure, and financial responsibility for tank systems must meet all of the requirements specified in Subparts G and H of this Part.

(b) If the owner or operator demonstrates that not all contaminated soils can be practicably removed or decontaminated as required in paragraph (a) of this section, then the owner or operator must close the tank system and perform post-closure care in accordance with the closure and post-closure care requirements that apply to landfills (§ 265.310) In addition, for the purposes of closure, post-closure, and financial responsibility, such a tank system is then considered to be a landfill, and the owner or operator must meet all of the requirements for landfills specified in Subparts G and H of this part.

(c) If an owner or operator has a tank system which does not have secondary containment that meets the requirements of § 265.193(b) through (f) and which is not exempt from the secondary containment requirements accordance with § 265.193(g), then,

(1) The closure plan for the ta system must include both a plan complying with paragraph (a) of t section and a contingent plan for co plying with paragraph (b) of this s tion.

(2) A contingent post-closure pl for complying with paragraph (b) this section must be prepared and su mitted as part of the permit applic tion.

(3) The cost estimates calculated f closure and post-closure care must r flect the costs of complying with t contingent closure plan and the co tingent post-closure plan, if these cos are greater than the costs of compl ing with the closure plan prepared f the expected closure under paragrap (a) of this section.

(4) Financial assurance must based on the cost estimates in par graph (c)(3) of this section.

(5) For the purposes of the conti gent closure and post-closure plan such a tank system is considered to a landfill, and the contingent pla must meet all of the closure, post-cl sure, and financial responsibility r quirements for landfills under Su parts G and H of this Part.

(Information collection requirements co tained in paragraphs (a)-(c) were approve by the Office of Management and Budg under control number 2050-0050)

§ 265.198 Special requirements for igni ble or reactive wastes.

(a) Ignitable or reactive waste mu not be placed in a tank system, unles

(1) The waste is treated, rendered, mixed before or immediately afte placement in the tank system so tha

(i) The resulting waste, mixture, dissolved material no longer meets th definition of ignitable or reacti waste under §§ 261.21 or 261.23 of th chapter; and

(ii) Section 265.17(b) is complie with; or

(2) The waste is stored or treated such a way that it is protected fr any material or conditions that ma cause the waste to ignite or react; or

(3) The tank system is used sol for emergencies.

(b) The owner or operator of a facility where ignitable or reactive waste is stored or treated in tanks must comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjoining property line that can be built upon as required in Tables 2-1 through 2-6 of the National Fire Protection Association's "Flammable and Combustible Liquids Code," (1977 or 1981), (incorporated by reference, see § 260.11).

§ 265.199 Special requirements for incompatible wastes.

(a) Incompatible wastes, or incompatible waste and materials, must not be placed in the same tank system, unless § 265.17(b) is complied with.

(b) Hazardous waste must not be placed in a tank system that has not been decontaminated and that previously held an incompatible waste or material, unless § 265.17(b) is complied with.

§ 265.200 Waste analysis and trial tests.

In addition to performing the waste analysis required by § 265.13, the owner or operator must, whenever a tank system is to be used to treat chemically or to store a hazardous waste that is substantially different from waste previously treated or stored in that tank system; or treat chemically a hazardous waste with a substantially different process than any previously used in that tank system:

(a) Conduct waste analyses and trial treatment or storage tests (e.g., bench-scale or pilot-plant scale tests); or

(b) Obtain written, documented information on similar waste under similar operating conditions to show that the proposed treatment or storage will meet the requirements of § 265.194(a).

NOTE: Section 265.13 requires the waste analysis plan to include analyses needed to comply with §§ 265.198 and 265.199. Section 265.73 requires the owner or operator to place the results from each waste analysis and trial test, or the documented information, in the operating record of the facility.

§ 265.201 Special requirements for generators of between 100 and 1,000 kg/mo that accumulate hazardous waste in tanks.

(a) The requirements of this section apply to small quantity generators of more than 100 kg but less than 1,000 kg of hazardous waste in a calendar month, that accumulate hazardous waste in tanks for less than 180 days (or 270 days if the generator must ship the waste greater than 200 miles), and do not accumulate over 6,000 kg on-site at any time.

(b) Generators of between 100 and 1,000 kg/mo hazardous waste must comply with the following general operating requirements:

(1) Treatment or storage of hazardous waste in tanks must comply with § 265.17(b).

(2) Hazardous wastes or treatment reagents must not be placed in a tank if they could cause the tank or its inner liner to rupture, leak, corrode, or otherwise fail before the end of its intended life.

(3) Uncovered tanks must be operated to ensure at least 60 centimeters (2 feet) of freeboard, unless the tank is equipped with a containment structure (e.g., dike or trench), a drainage control system, or a diversion structure (e.g., standby tank) with a capacity that equals or exceeds the volume of the top 60 centimeters (2 feet) of the tank.

(4) Where hazardous waste is continuously fed into a tank, the tank must be equipped with a means to stop this inflow (e.g., waste feed cutoff system or by-pass system to a stand-by tank).

NOTE: These systems are intended to be used in the event of a leak or overflow from the tank due to a system failure (e.g., a malfunction in the treatment process, a crack in the tank, etc.).

(c) Generators of between 100 and 1,000 kg/mo accumulating hazardous waste in tanks must inspect, where present:

(1) Discharge control equipment (e.g., waste feed cutoff systems, bypass systems, and drainage systems) at least once each operating day, to ensure that it is in good working order;

(2) Data gathered from monitoring equipment (e.g., pressure and temperature gauges) at least once each operating day to ensure that the tank is being operated according to its design;

(3) The level of waste in the tank at least once each operating day to ensure compliance with § 265.201(b)(3);

(4) The construction materials of the tank at least weekly to detect corrosion or leaking of fixtures or seams; and

(5) The construction materials of, and the area immediately surrounding, discharge confinement structures (e.g., dikes) at least weekly to detect erosion or obvious signs of leakage (e.g., wet spots or dead vegetation).

NOTE: As required by § 265.15(c), the owner or operator must remedy any deterioration or malfunction he finds.

(d) Generators of between 100 and 1,000 kg/mo accumulating hazardous waste in tanks must, upon closure of the facility, remove all hazardous waste from tanks, discharge control equipment, and discharge confinement structures.

NOTE: At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with § 261.3(c) or (d) of this chapter, that any solid waste removed from his tank is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of Parts 262, 263, and 265 of this chapter.

(e) Generators of between 100 and 1,000 kg/mo must comply with the following special requirements for ignitable or reactive waste:

(1) Ignitable or reactive waste must not be placed in a tank, unless:

(i) The waste is treated, rendered, or mixed before or immediately after placement in a tank so that (A) the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under § 261.21 or § 261.23 of this chapter, and (B) § 265.17(b) is complied with; or

(ii) The waste is stored or treated in such a way that it is protected from any material or conditions that may cause the waste to ignite or react; or

(iii) The tank is used solely for emergencies.

(2) The owner or operator of a facility which treats or stores ignitable or reactive waste in covered tanks must comply with the buffer zone requirements for tanks contained in Tables 2-1 through 2-6 of the National Fire Protection Association's "Flammable and Combustible Liquids Code," (1977 or 1981) (incorporated by reference, see § 260.11).

(f) Generators of between 100 and 1,000 kg/mo must comply with the following special requirements for incompatible wastes:

(1) Incompatible wastes, or incompatible wastes and materials, (see Appendix V for examples) must not be placed in the same tank, unless § 265.17(b) is complied with.

(2) Hazardous waste must not be placed in an unwashed tank which previously held an incompatible waste or material, unless § 265.17(b) is complied with.

[51 FR 25479, July 14, 1986, as amended at 53 FR 34087, Sept. 2, 1988]

Subpart K—Surface Impoundments

§ 265.220 Applicability.

The regulations in this subpart apply to owners and operators of facilities that use surface impoundments to treat, store, or dispose of hazardous waste, except as § 265.1 provides otherwise.

§ 265.221 Design requirements.

(a) The owner or operator of a surface impoundment must install two or more liners and leachate collection system in accordance with § 264.221(c) of this chapter, with respect to each new unit, replacement of an existing unit, or lateral expansion of an existing unit that is within the area identified in the Part A permit application, and with respect to waste received beginning May 8, 1985.

(b) The owner or operator of each unit referred to in paragraph (a) of this section must notify the Regional Administrator at least sixty days prior to receiving waste. The owner or operator of each facility submitting notice must file a Part B application within six months of the receipt of such notice.

(c) Paragraph (a) of this section will not apply if the owner or operator demonstrates to the Regional Administrator, and the Regional Administrator finds for such surface impoundment, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituent into the ground water or surface water at least as effectively as such liners and leachate collection systems.

(d) The double liner requirement set forth in paragraph (a) of this section may be waived by the Regional Administrator for any monofill, if:

(1) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not ontain constituents which would ender the wastes hazardous for reaons other than the Toxicity Characeristic in § 261.24 of this chapter, with EPA Hazardous Waste Numbers D004 through D017; and

(2)(i)(A) The monofill has at least ne liner for which there is no evience that such liner in leaking. For he purposes of this paragraph the erm "liner" means a liner designed, onstructed, installed, and operated to revent hazardous waste from passing nto the liner at any time during the ctive life of the facility, or a liner degned, constructed, installed, and oprated to prevent hazardous waste rom migrating beyond the liner to adcent subsurface soil, ground water, r surface water at any time during he active life of the facility. In the se of any surface impoundment hich has been exempted from the reuirements of paragraph (a) of this ction on the basis of a liner degned, constructed, installed, and oprated to prevent hazardous waste om passing beyond the liner, at the osure of such impoundment the wner or operator must remove or dentaminate all waste residues, all conminated liner material, and contamited soil to the extent practicable. If contaminated soil it is not removed decontaminated, the owner of operor of such impoundment must mply with appropriate post-closure requirements, including but not limited to ground-water monitoring and corrective action;

(B) The monofill is located more than one-quarter mile from an underground source of drinking water (as that term is defined in § 144.3 of this chapter); and

(C) The monofill is in compliance with generally applicable groundwater monitoring requirements for facilities with permits under RCRA section 3005(c); or

(ii) The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.

(e) In the case of any unit in which the liner and leachate collection system has been installed pursuant to the requirements of paragraph (a) of this section and in good faith compliance with paragraph (a) of this section and with guidance documents governing liners and leachate collection systems under paragraph (a) of this section, no liner or leachate collection system which is different from that which was so installed pursuant to paragraph (a) of this section will be required for such unit by the Regional Administrator when issuing the first permit to such facility, except that the Regional Administrator will not be precluded from requiring installation of a new liner when the Regional Administrator has reason to believe that any liner installed pursuant to the requirements of paragraph (a) of this section is leaking.

[50 FR 28749, July 15, 1985, as amended at 55 FR 11876, Mar. 29, 1990]

EFFECTIVE DATE NOTE: At 55 FR 11876, Mar. 29, 1990, § 265.221 paragraph (d)(1) was revised, effective September 25, 1990. For the convenience of the user, the superseded text is set forth below:

§ 265.221 Design requirements.

* * * * *

(d)* * *

(1) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents

which would render the wastes hazardous for reasons other than the EP toxicity characteristics in § 261.24 of this chapter; and

* * * * *

§ 265.222 General operating requirements.

(a) A surface impoundment must maintain enough freeboard to prevent any overtopping of the dike by overfilling, wave action, or a storm. Except as provided in paragraph (b) of this section, there must be at least 60 centimeters (two feet) of freeboard.

(b) A freeboard level less than 60 centimeters (two feet) may be maintained if the owner or operator obtains certification by a qualified engineer that alternate design features or operating plans will, to the best of his knowledge and opinion, prevent overtopping of the dike. The certification, along with a written identification of alternate design features or operating plans preventing overtopping, must be maintained at the facility.

(Approved by the Office of Management and Budget under the control number 2050-0007)

[50 FR 16048, Apr. 23, 1985]

§ 265.223 Containment system.

All earthen dikes must have a protective cover, such as grass, shale, or rock, to minimize wind and water erosion and to preserve their structural integrity.

§ 265.224 [Reserved]

§ 265.225 Waste analysis and trial tests.

(a) In addition to the waste analyses required by § 265.13, whenever a surface impoundment is to be used to:

(1) Chemically treat a hazardous waste which is substantially different from waste previously treated in that impoundment; or

(2) Chemically treat hazardous waste with a substantially different process than any previously used in that impoundment; the owner or operator must, before treating the different waste or using the different process:

(i) Conduct waste analyses and trial treatment tests (e.g., bench scale or pilot plant scale tests); or

(ii) Obtain written, documented i formation on similar treatment similar waste under similar operati conditions; to show that this trea ment will comply with § 265.17(b).

[*Comment:* As required by § 265.13, th waste analysis plan must include analy needed to comply with §§ 265.229 an 265.230. As required by § 265.73, the own or operator must place the results fro each waste analysis and trial test, or th documented information, in the operati record of the facility.]

§ 265.226 Inspections.

(a) The owner or operator must i spect:

(1) The freeboard level at least onc each operating day to ensure compli ance with § 265.222, and

(2) The surface impoundment, in cluding dikes and vegetation surround ing the dike, at least once a week t detect any leaks, deterioration, or fai ures in the impoundment.

[*Comment:* As required by § 265.15(c), th owner or operator must remedy any deter ration or malfunction he finds.]

§ 265.227 [Reserved]

§ 265.228 Closure and post-closure care.

(a) At closure, the owner or operat must:

(1) Remove or decontaminate a waste residues, contaminated contai ment system components (liners, etc contaminated subsoils, and structur and equipment contaminated wi waste and leachate, and manage the as hazardous waste unless § 261.3(d) this chapter applies; or

(2) Close the impoundment and pr vide post-closure care for a landfi under Subpart G and § 265.310, inclu ing the following:

(i) Eliminate free liquids by remo ing liquid wastes or solidifying the r maining wastes and waste residues;

(ii) Stabilize remaining wastes to bearing capacity sufficient to suppo the final cover; and

(iii) Cover the surface impoundme with a final cover designed and co structed to:

(A) Provide long-term minimizati of the migration of liquids throu the closed impoundment;

(B) Function with minimum mainte-
ance;
(C) Promote drainage and minimize
osion or abrasion of the cover;
(D) Accommodate settling and sub-
dence so that the cover's integrity is
aintained; and
(E) Have a permeability less than or
ual to the permeability of any
ttom liner system or natural sub-
ils present.

(b) In addition to the requirements
Subpart G, and § 265.310, during
e post-closure care period, the owner
operator of a surface impoundment
which wastes, waste residues, or
ntaminated materials remain after
sure in accordance with the provi-
ns of paragraph (a)(2) of this sec-
n must:
1) Maintain the integrity and effec-
eness of the final cover, including
king repairs to the cover as neces-
y to correct the effects of settling,
sidence, erosion, or other events;
2) Maintain and monitor the
und-water monitoring system and
nply with all other applicable re-
rements of Subpart F of this part;
d
3) Prevent run-on and run-off from
ding or otherwise damaging the
al cover.

FR 8708, Mar. 19, 1987]

5.229 Special requirements for ignitable or reactive waste.

nitable or reactive waste must not
placed in a surface impoundment,
ess the waste and impoundment
sfy all applicable requirements of
CFR part 268, and:
) The waste is treated, rendered, or
ed before or immediately after
ement in the impoundment so
t:
) The resulting waste, mixture, or
olution of material no longer
ts the definition of ignitable or re-
ve waste under § 261.21 or § 261.23
his chapter; and
) Section 265.17(b) is complied
; or
)(1) The waste is managed in such
ay that it is protected from any
erial or conditions which may
e it to ignite or react; and
) The owner or operator obtains a
ification from a qualified chemist or engineer that, to the best of his knowledge and opinion, the design features or operating plans of the facility will prevent ignition or reaction; and

(3) The certification and the basis for it are maintained at the facility; or

(c) The surface impoundment is used solely for emergencies.

(Approved by the Office of Management and Budget under control number 2050-0007)

[50 FR 16048, Apr. 23, 1985, as amended at 55 FR 22685, June 1, 1990]

§ 265.230 Special requirements for incompatible wastes.

Incompatible wastes, or incompatible wastes and materials, (see Appendix V for examples) must not be placed in the same surface impoundment, unless § 265.17(b) is complied with.

Subpart L—Waste Piles

§ 265.250 Applicability.

The regulations in this subpart apply to owners and operators of facilities that treat or store hazardous waste in piles, except as § 265.1 provides otherwise. Alternatively, a pile of hazardous waste may be managed as a landfill under Subpart N.

§ 265.251 Protection from wind.

The owner or operator of a pile containing hazardous waste which could be subject to dispersal by wind must cover or otherwise manage the pile so that wind dispersal is controlled.

§ 265.252 Waste analysis.

In addition to the waste analyses required by § 265.13, the owner or operator must analyze a representative sample of waste from each incoming movement before adding the waste to any existing pile, *unless* (1) The only wastes the facility receives which are amenable to piling are compatible with each other, or (2) the waste received is compatible with the waste in the pile to which it is to be added. The analysis conducted must be capable of differentiating between the types of hazardous waste the owner or operator places in piles, so that mixing of incompatible waste does not inadvertently occur. The analysis must include a visual comparison of color and texture.

[*Comment:* As required by § 265.13, the waste analysis plan must include analyses needed to comply with §§ 265.256 and 265.257. As required by § 265.73, the owner or operator must place the results of this analysis in the operating record of the facility.]

§ 265.253 Containment.

If leachate or run-off from a pile is a hazardous waste, then either:

(a)(1) The pile must be placed on an impermeable base that is compatible with the waste under the conditions of treatment or storage;

(2) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the pile during peak discharge from at least a 25-year storm;

(3) The owner or operator must design, construct, operate, and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm; and

(4) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously to maintain design capacity of the system; or

(b)(1) The pile must be protected from precipitation and run-on by some other means; and

(2) No liquids or wastes containing free liquids may be placed in the pile.

[*Comment:* If collected leachate or run-off is discharged through a point source to waters of the United States, it is subject to the requirements of section 402 of the Clean Water Act, as amended.]

[45 FR 33232, May 19, 1980, as amended at 47 FR 32367, July 26, 1982]

§ 265.254 Design requirements.

The owner or operator of a waste pile is subject to the requirements for liners and leachate collection systems or equivalent protection provided in § 264.251 of this chapter, with respect to each new unit, replacement of an existing unit, or lateral expansion of an existing unit that is within the area indentified in the Part A permit application, and with respect to waste
ceived beginning May 8, 1985.

[50 FR 28750, July 15, 1985]

§ 265.255 [Reserved]

§ 265.256 Special requirements for ig
ble or reactive waste.

(a) Ignitable or reactive waste m
not be placed in a pile unless the wa
and pile satisfy all applicable requi
ments of 40 CFR part 268, and:

(1) Addition of the waste to an exi
ing pile (i) results in the waste or mi
ture no longer meeting the definiti
of ignitable or reactive waste un
§ 261.21 or § 261.23 of this chapt
and (ii) complies with § 265.17(b); or

(2) The waste is managed in such
way that it is protected from any m
terial or conditions which may cause
to ignite or react.

[45 FR 33232, May 19, 1980, as amended
55 FR 22685, June 1, 1990]

§ 265.257 Special requirements for inc
patible wastes.

(a) Incompatible wastes, or inco
patible wastes and materials, (see A
pendix V for examples) must not
placed in the same pile, unl
§ 265.17(b) is complied with.

(b) A pile of hazardous waste that
incompatible with any waste or oth
material stored nearby in other co
tainers, piles, open tanks, or surfa
impoundments must be separat
from the other materials, or protect
from them by means of a dike, ber
wall, or other device.

[*Comment:* The purpose of this is to prev
fires, explosions, gaseous emissions, lea
ing, or other discharge of hazardous wa
or hazardous waste constituents whi
could result from the contact or mixing
incompatible wastes or materials.]

(c) Hazardous waste must not
piled on the same area where inco
patible wastes or materials were pre
ously piled, unless that area has be
decontaminated sufficiently to ensu
compliance with § 265.17(b).

§ 265.258 Closure and post-closure care.

(a) At closure, the owner or operat
must remove or decontaminate
waste residues, contaminated contai

ment system components (liners, etc.), contaminated subsoils, and structures and equipment contaminated with waste and leachate, and manage them as hazardous waste unless § 261.3(d) of this chapter applies; or

(b) If, after removing or decontaminating all residues and making all reasonable efforts to effect removal or decontamination of contaminated components, subsoils, structures, and equipment as required in paragraph (a) of this section, the owner or operator finds that not all contaminated subsoils can be practicably removed or decontaminated, he must close the facility and perform post-closure care in accordance with the closure and post-closure requirements that apply to landfills (§ 265.310).

[47 FR 32368, July 26, 1982]

Subpart M—Land Treatment

§ 265.270 Applicability.

The regulations in this subpart apply to owners and operators of hazardous waste land treatment facilities, except as § 265.1 provides otherwise.

§ 265.271 [Reserved]

§ 265.272 General operating requirements.

(a) Hazardous waste must not be placed in or on a land treatment faciliy unless the waste can be made less hazardous or nonhazardous by degradation, transformation, or immobilizaion processes occurring in or on the oil.

(b) The owner or operator must design, construct, operate, and mainain a run-on control system capable f preventing flow onto the active porions of the facility during peak disharge from at least a 25-year storm.

(c) The owner or operator must esign, construct, operate, and mainain a run-off management system caable of collecting and controlling a ater volume at least equivalent to a 4-hour, 25-year storm.

(d) Collection and holding facilities e.g., tanks or basins) associated with un-on and run-off control systems ust be emptied or otherwise manged expeditiously after storms to aintain design capacity of the ystem.

(e) If the treatment zone contains particulate matter which may be subject to wind dispersal, the owner or operator must manage the unit to control wind dispersal.

[45 FR 33232, May 19, 1980, as amended at 47 FR 32368, July 26, 1982; 50 FR 16048, Apr. 23, 1985]

§ 265.273 Waste analysis.

In addition to the waste analyses required by § 265.13, before placing a hazardous waste in or on a land treatment facility, the owner or operator must:

(a) Determine the concentrations in the waste of any substances which equal or exceed the maximum concentrations contained in Table 1 of § 261.24 of this chapter that cause a waste to exhibit the Toxicity Characteristic;

(b) For any waste listed in Part 261, Subpart D, of this chapter, determine the concentrations of any substances which caused the waste to be listed as a hazardous waste; and

(c) If food chain crops are grown, determine the concentrations in the waste of each of the following constituents: arsenic, cadmium, lead, and mercury, *unless* the owner or operator has written, documented data that show that the constituent is not present.

[*Comment:* Part 261 of this chapter specifies the substances for which a waste is listed as a hazardous waste. As required by § 265.13, the waste analysis plan must include analyses needed to comply with §§ 265.281 and 265.282. As required by § 265.73, the owner or operator must place the results from each waste analysis, or the documented information, in the operating record of the facility.]

[45 FR 33232, May 19, 1980, as amended at 55 FR 11876, Mar. 29, 1990]

EFFECTIVE DATE NOTE: At 55 FR 11876, Mar. 29, 1990, § 265.273 paragraph (a) was revised, effective September 25, 1990. For the convenience of the user, the superseded text is set forth below:

§ 265.273 Waste analysis.

* * * * *

(a) Determine the concentrations in the waste of any substances which exceed the maximum concentrations contained in

Table I of § 261.24 of this chapter that cause a waste to exhibit the EP toxicity characteristic;

* * * * *

§§ 265.274—265.275 [Reserved]

§ 265.276 Food chain crops.

(a) An owner or operator of a hazardous waste land treatment facility on which food chain crops are being grown, or have been grown and will be grown in the future, must notify the Regional Administrator within 60 days after the effective date of this part.

[*Comment:* The growth of food chain crops at a facility which has never before been used for this purpose is a significant change in process under § 122.72(c) of this chapter. Owners or operators of such land treatment facilities who propose to grow food chain crops after the effective date of this part must comply with § 122.72(c) of this chapter.]

(b)(1) Food chain crops must not be grown on the treated area of a hazardous waste land treatment facility unless the owner or operator can demonstrate, based on field testing, that any arsenic, lead, mercury, or other constituents identified under § 265.273(b):

(i) Will not be transferred to the food portion of the crop by plant uptake or direct contact, and will not otherwise be ingested by food chain animals (e.g., by grazing); or

(ii) Will not occur in greater concentrations in the crops grown on the land treatment facility than in the same crops grown on untreated soils under similar conditions in the same region.

(2) The information necessary to make the demonstration required by paragraph (b)(1) of this section must be kept at the facility and must, at a minimum:

(i) Be based on tests for the specific waste and application rates being used at the facility; and

(ii) Include descriptions of crop and soil characteristics, sample selection criteria, sample size determination, analytical methods, and statistical procedures.

(c) Food chain crops must not be grown on a land treatment facility receiving waste that contains cadmium unless all requirements of paragraphs (c)(1) (i) through (iii) of this section or all requirements of paragraphs (c)(2) (i) through (iv) of this section are met.

(1)(i) The pH of the waste and soil mixture is 6.5 or greater at the time of each waste application, except for waste containing cadmium at concentrations of 2 mg/kg (dry weight) or less;

(ii) The annual application of cadmium from waste does not exceed 0.5 kilograms per hectare (kg/ha) on land used for production of tobacco, leafy vegetables, or root crops grown for human consumption. For other food chain crops, the annual cadmium application rate does not exceed:

Time period	Annual Cd application rate (kg/ha)
Present to June 30, 1984	[illegible]
July 1, 1984 to December 31, 1986	[illegible]
Beginning January 1, 1987	[illegible]

(iii) The cumulative application of cadmium from waste does not exceed the levels in either paragraph (c)(1)(iii)(A) or (B) of this section.

(A)

Soil caption exchange capacity (meq/100g)	Maximum cumulative application (kg/ha)	
	Background soil pH less than 6.5	Background soil pH greater than 6.5
Less than 5	5	[illegible]
5 to 15	5	[illegible]
Greater than 15	5	[illegible]

(B) For soils with a background pH of less than 6.5, the cumulative cadmium application rate does not exceed the levels below: *Provided,* that the pH of the waste and soil mixture is adjusted to and maintained at 6.5 or greater whenever food chain crops are grown.

Soil caption exchange capacity (meq/100g)	Maximum cumulative application (kg/ha)
Less than 5	[illegible]
5 to 15	[illegible]

Soil caption exchange capacity (meq/100g)	Maximum cumulative application (kg/ha)
Greater than 15	20

(2)(i) The only food chain crop produced is animal feed.

(ii) The pH of the waste and soil mixture is 6.5 or greater at the time of waste application or at the time the crop is planted, whichever occurs later, and this pH level is maintained whenever food chain crops are grown.

(iii) There is a facility operating plan which demonstrates how the animal feed will be distributed to preclude ingestion by humans. The facility operating plan describes the measures to be taken to safeguard against possible health hazards from cadmium entering the food chain, which may result from alternative land uses.

(iv) Future property owners are notified by a stipulation in the land record or property deed which states that the property has received waste at high cadmium application rates and that food chain crops must not be grown except in compliance with paragraph (c)(2) of this section.

[*Comment:* As required by § 265.73, if an owner or operator grows food chain crops on his land treatment facility, he must place the information developed in this section in the operating record of the facility.]

[45 FR 33232, May 19, 1980, as amended at 47 FR 32368, July 26, 1982; 48 FR 14295, Apr. 1, 1983]

§ 265.277 [Reserved]

§ 265.278 Unsaturated zone (zone of aeration) monitoring.

(a) The owner or operator must have n writing, and must implement, an nsaturated zone monitoring plan vhich is designed to:

(1) Detect the vertical migration of azardous waste and hazardous waste onstituents under the active portion f the land treatment facility, and

(2) Provide information on the background concentrations of the hazardus waste and hazardous waste contituents in similar but untreated soils earby; this background monitoring nust be conducted before or in conjunction with the monitoring required under paragraph (a)(1) of this section.

(b) The unsaturated zone monitoring plan must include, at a minimum:

(1) Soil monitoring using soil cores, and

(2) Soil-pore water monitoring using devices such as lysimeters.

(c) To comply with paragraph (a)(1) of this section, the owner or operator must demonstrate in his unsaturated zone monitoring plan that:

(1) The depth at which soil and soil-pore water samples are to be taken is below the depth to which the waste is incorporated into the soil;

(2) The number of soil and soil-pore water samples to be taken is based on the variability of:

(i) The hazardous waste constituents (as identified in § 265.273(a) and (b)) in the waste and in the soil; and

(ii) The soil type(s); and

(3) The frequency and timing of soil and soil-pore water sampling is based on the frequency, time, and rate of waste application, proximity to ground water, and soil permeability.

(d) The owner or operator must keep at the facility his unsaturated zone monitoring plan, and the rationale used in developing this plan.

(e) The owner or operator must analyze the soil and soil-pore water samples for the hazardous waste constituents that were found in the waste during the waste analysis under § 265.273 (a) and (b).

[*Comment:* As required by § 265.73, all data and information developed by the owner or operator under this section must be placed in the operating record of the facility.]

§ 265.279 Recordkeeping.

The owner or operator must include hazardous waste application dates and rates in the operating record required under § 265.73.

[47 FR 32368, July 26, 1982]

§ 265.280 Closure and post-closure.

(a) In the closure plan under § 265.112 and the post-closure plan under § 265.118, the owner or operator must address the following objectives and indicate how they will be achieved:

(1) Control of the migration of hazardous waste and hazardous waste constituents from the treated area into the ground water;

(2) Control of the release of contaminated run-off from the facility into surface water;

(3) Control of the release of airborne particulate contaminants caused by wind erosion; and

(4) Compliance with § 265.276 concerning the gowth of food-chain crops.

(b) The owner or operator must consider at least the following factors in addressing the closure and post-closure care objectives of paragraph (a) of this section:

(1) Type and amount of hazardous waste and hazardous waste constituents applied to the land treatment facility;

(2) The mobility and the expected rate of migration of the hazardous waste and hazardous waste constituents;

(3) Site location, topography, and surrounding land use, with respect to the potential effects of pollutant migration (e.g., proximity to ground water, surface water and drinking water sources);

(4) Climate, including amount, frequency, and pH of precipitation;

(5) Geological and soil profiles and surface and subsurface hydrology of the site, and soil characteristics, including cation exchange capacity, total organic carbon, and pH;

(6) Unsaturated zone monitoring information obtained under § 265.278; and

(7) Type, concentration, and depth of migration of hazardous waste constituents in the soil as compared to their background concentrations.

(c) The owner or operator must consider at least the following methods in addressing the closure and post-closure care objectives of paragraph (a) of this section:

(1) Removal of contaminated soils;

(2) Placement of a final cover, considering:

(i) Functions of the cover (e.g., infiltration control, erosion and run-off control, and wind erosion control); and

(ii) Characteristics of the cover, including material, final surface contours, thickness, porosity and perme-
ability, slope, length of run of s
and type of vegetation on the co
and

(3) Monitoring of ground water.

(d) In addition to the requirem
of Subpart G of this part, during
closure period the owner or oper
of a land treatment facility must:

(1) Continue unsaturated zone m
toring in a manner and freque
specified in the closure plan, exc
that soil pore liquid monitoring
be terminated 90 days after the
application of waste to the treatm
zone;

(2) Maintain the run-on con
system required under § 265.272(b);

(3) Maintain the run-off mana
ment system required un
§ 265.272(c); and

(4) Control wind dispersal of parti
late matter which may be subject
wind dispersal.

(e) For the purpose of comply
with § 265.115, when closure is co
pleted the owner or operator m
submit to the Regional Administra
certification both by the owner or
erator and by an independent qu
fied soil scientist, in lieu of an in
pendent registered professional en
neer, that the facility has been clo
in accordance with the specificatio
in the approved closure plan.

(f) In addition to the requiremen
of § 265.117, during the post-clos
care period the owner or operator of
land treatment unit must:

(1) Continue soil-core monitoring
collecting and analyzing samples in
manner and frequency specified in th
post-closure plan;

(2) Restrict access to the unit as
propriate for its post-closure use;

(3) Assure that growth of food cha
crops complies with § 265.276; and

(4) Control wind dispersal of hazar
ous waste.

[45 FR 33232, May 19, 1980, as amended
47 FR 32368, July 26, 1982]

§ 265.281 Special requirements for igni ble or reactive waste.

The owner or operator must
apply ignitable or reactive waste
the treatment zone unless the wa
and treatment zone meet all applica
requirements of 40 CFR part 268, and

(a) The waste is immediately incorporated into the soil so that:

(1) The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under § 265.21 or § 261.23 of this chapter; and

(2) Section 264.17(b) is complied with; or

(b) The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.

[47 FR 32368, July 26, 1982, as amended at 55 FR 22686, June 1, 1990]

§ 265.282 Special requirements for incompatible wastes.

Incompatible wastes, or incompatible wastes and materials (see Appendix V for examples), must not be placed in the same land treatment area, unless § 265.17(b) is complied with.

Subpart N—Landfills

§ 265.300 Applicability.

The regulations in this subpart apply to owners and operators of facilities that dispose of hazardous waste in landfills, except as § 265.1 provides otherwise. A waste pile used as a disposal facility is a landfill and is governed by this subpart.

§ 265.301 Design requirements.

(a) The owner or operator of a landfill must install two or more liners and leachate collection systems above and between such liners in accordance with § 264.301(c) of this chapter, with respect to each new unit, replacement of an existing unit, or lateral expansion of an existing unit that is within the area identified in the Part A permit application, and with respect to waste received beginning May 8, 1985.

(b) The owner or operator of each unit referred to in paragraph (a) of this section must notify the Regional Administrator at least sixty days prior to receiving waste. The owner or operator of each facility submitting notice must file a Part B application within six months of the receipt of such notice.

(c) Paragraph (a) of this section will not apply if the owner or operator demonstrates to the Regional Administrator, and the Regional Administrator finds for such landfill, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituent into the ground water or surface water at least as effectively as such liners and leachate collection systems.

(d) The double liner requirement set forth in paragraph (a) of this section may be waived by the Regional Administrator for any monofill, if:

(1) The monofill contains only hazardous wastes from foundry furnace emission controls or metal casting molding sand, and such wastes do not contain constituents which would render the wastes hazardous for reasons other than the EP toxicity characteristics in § 261.24 of this chapter; and

(2)(i)(A) The monofill has at least one liner for which there is no evidence that such liner is leaking;

(B) The monofill is located more than one-quarter mile from an underground source of drinking water (as that term is defined in § 144.3 of this chapter); and

(C) The monofill is in compliance with generally applicable groundwater monitoring requirements for facilities with permits under RCRA section 3005(c); or

(ii) The owner or operator demonstrates that the monofill is located, designed and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.

(e) In the case of any unit in which the liner and leachate collection system has been installed pursuant to the requirements of paragraph (a) of this section and in good faith compliance with paragraph (a) of this section and with guidance documents governing liners and leachate collection systems under paragraph (a) of this section, no liner or leachate collection system which is different from that which was so installed pursuant to paragraph (a) of this section will be required for such unit by the Regional

Administrator when issuing the first permit to such facility, except that the Regional Administrator will not be precluded from requiring installation of a new liner when the Regional Administrator has reason to believe that any liner installed pursuant to the requirements of paragraph (a) of this section is leaking.

[50 FR 28750, July 15, 1985]

§ 265.302 General operating requirements.

(a) The owner or operator must design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the landfill during peak discharge from at least a 25-year storm.

(b) The owner or operator must design, construct, operate and maintain a run-off management system to collect and control at least the water volume resulting from a 24-hour, 25-year storm.

(c) Collection and holding facilities (e.g., tanks or basins) associated with run-on and run-off control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of the system.

(d) The owner or operator of a landfill containing hazardous waste which is subject to dispersal by wind must cover or otherwise manage the landfill so that wind dispersal of the hazardous waste is controlled.

[*Comment*: As required by § 265.13, the waste analysis plan must include analyses needed to comply with §§ 265.312, 265.313, and 265.314. As required by § 265.73, the owner or operator must place the results of these analyses in the operating record of the facility.]

[45 FR 33232, May 19, 1980, as amended at 47 FR 32368, July 26, 1982; 50 FR 18374, Apr. 30, 1985]

§§ 265.303—265.308 [Reserved]

§ 265.309 Surveying and recordkeeping.

The owner or operator of a landfill must maintain the following items in the operating record required in § 265.73:

(a) On a map, the exact location and dimensions, including depth, of each cell with respect to permanently surveyed benchmarks; and

(b) The contents of each cell and the approximate location of each hazardous waste type within each cell.

§ 265.310 Closure and post-closure care.

(a) At final closure of the landfill or upon closure of any cell, the owner or operator must cover the landfill or cell with a final cover designed and constructed to:

(1) Provide long-term minimization of migration of liquids through the closed landfill;

(2) Function with minimum maintenance;

(3) Promote drainage and minimize erosion or abrasion of the cover;

(4) Accommodate settling and subsidence so that the cover's integrity is maintained; and

(5) Have a permeability less than or equal to the permeability of any bottom liner system or natural subsoils present.

(b) After final closure, the owner or operator must comply with all post-closure requirements contained in §§ 265.117 through 265.120 including maintenance and monitoring throughout the post-closure care period. The owner or operator must:

(1) Maintain the integrity and effectiveness of the final cover, including making repairs to the cover as necessary to correct the effects of settling, subsidence, erosion, or other events;

(2) Maintain and monitor the ground-water monitoring system and comply with all other applicable requirements of Subpart F of this part;

(3) Prevent run-on and run-off from eroding or otherwise damaging the final cover; and

(4) Protect and maintain surveyed benchmarks used in complying with § 265.309.

[50 FR 16048, Apr. 23, 1985]

§ 265.311 [Reserved]

§ 265.312 Special requirements for ignitable or reactive waste.

(a) Except as provided in paragraph (b) of this section, and in § 265.316, ignitable or reactive waste must not be placed in a landfill, unless the waste and landfill meets all applicable requirements of 40 CFR part 268, and

(1) The resulting waste mixture, or dissolution or material no longer meets the definition of ignitable or reactive waste under § 261.21 or § 261.23 of this chapter; and

(2) Section 265.17(b) is complied with.

(b) Except for prohibited wastes which remain subject to treatment standards in subpart D of part 268, ignitable wastes in containers may be landfilled without meeting the requirements of paragraph (a) of this section, provided that the wastes are disposed of in such a way that they are protected from any material or conditions which may cause them to ignite. At a minimum, ignitable wastes must be disposed of in non-leaking containers which are carefully handled and placed so as to avoid heat, sparks, rupture, or any other condition that might cause ignition of the wastes; must be covered daily with soil or other non-combustible material to minimize the potential for ignition of the wastes; and must not be disposed of in cells that contain or will contain other wastes which may generate heat sufficient to cause ignition of the waste.

[47 FR 32368, July 26, 1982, as amended at 55 FR 22686, June 1, 1990]

§ 265.313 Special requirements for incompatible wastes.

Incompatible wastes, or incompatible wastes and materials, (see Appendix V for examples) must not be placed in the same landfill cell, unless § 265.17(b) is complied with.

§ 265.314 Special requirements for bulk and containerized liquids.

(a) Bulk or non-containerized liquid waste or waste containing free liquids may be placed in a landfill prior to May 8, 1985 only if:

(1) The landfill has a liner and eachate collection and removal ystem that meets the requirements of § 264.301(a) of this chapter; or

(2) Before disposal, the liquid waste r waste containing free liquids is reated or stabilized, chemically or hysically (e.g., by mixing with an aborbent solid), so that free liquids are o longer present.

(b) Effective May 8, 1985, the placement of bulk or non-containerized liquid hazardous waste or hazardous waste containing free liquids (whether or not absorbents have been added) in any landfill is prohibited.

(c) Containers holding free liquids must not be placed in a landfill unless:

(1) All free-standing liquid (i) has been removed by decanting, or other methods, (ii) has been mixed with absorbent or solidified so that free-standing liquid is no longer observed or (iii) had been otherwise eliminated; or

(2) The container is very small, such as an ampule; or

(3) The container is designed to hold free liquids for use other than storage, such as a battery or capacitor; or

(4) The container is a lab pack as defined in § 265.316 and is disposed of in accordance with § 265.316.

(d) To demonstrate the absence or presence of free liquids in either a containerized or a bulk waste, the following test must be used: Method 9095 (Paint Filter Liquids Test) as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods." [EPA Publication No. SW-846].

(e) The date for compliance with paragraph (a) of this section is November 19, 1981. The date for compliance with paragraph (c) of this section is March 22, 1982.

(f) Effective November 8, 1985, the placement of any liquid which is not a hazardous waste in a landfill is prohibited unless the owner or operator of such landfill demonstrates to the Regional Administrator, or the Regional Administrator determines, that:

(1) The only reasonably available alternative to the placement in such landfill is placement in a landfill or unlined surface impoundment, whether or not permitted or operating under interim status, which contains, or may reasonably be anticipated to contain, hazardous waste; and

(2) Placement in such owner or operator's landfill will not present a risk of contamination of any underground source of drinking water (as that term is defined in § 144.3 of this chapter).

(Approved by the Office of Management and Budget under control number 2050-0037)

[45 FR 33232, May 19, 1980, as amended at 47 FR 12318, Mar. 22, 1982; 47 FR 32369, July 26, 1982; 50 FR 18374, Apr. 30, 1985; 50 FR 28750, July 15, 1985; 51 FR 19177, May 28, 1986]

§ 265.315 Special requirements for containers.

Unless they are very small, such as an ampule, containers must be either:

(a) At least 90 percent full when placed in the landfill; or

(b) Crushed, shredded, or similarly reduced in volume to the maximum practical extent before burial in the landfill.

[50 FR 16048, Apr. 23, 1985]

§ 265.316 Disposal of small containers of hazardous waste in overpacked drums (lab packs).

Small containers of hazardous waste in overpacked drums (lab packs) may be placed in a landfull if the following requirements are met:

(a) Hazardous waste must be packaged in non-leaking inside containers. The inside containers must be of a design and constructed of a material that will not react dangerously with, be decomposed by, or be ignited by the waste held therein. Inside containers must be tightly and securely sealed. The inside containers must be of the size and type specified in the Department of Transportation (DOT) hazardous materials regulations (49 CFR Parts 173, 178 and 179), if those regulations specify a particular inside container for the waste.

(b) The inside containers must be overpacked in an open head DOT-specification metal shipping container (49 CFR Parts 178 and 179) of no more than 416-liter (110 gallon) capacity and surrounded by, at a minimum, a sufficient quantity of absorbent material to completely absorb all of the liquid contents of the inside containers. The metal outer container must be full after packing with inside containers and absorbent material.

(c) The absorbent material used must not be capable of reacting dangerously with, being decomposed by, or being ignited by the contents of the inside containers, in accordance with § 265.17(b).

(d) Incompatible wastes, as defined in § 260.10(a) of this chapter, must not be placed in the same outside container.

(e) Reactive waste, other than cyanide- or sulfide-bearing waste as defined in § 261.23(a)(5) of this chapter, must be treated or rendered non-reactive prior to packaging in accordance with paragraphs (a) through (d) of this section. Cyanide- and sulfide-bearing reactive waste may be packaged in accordance with paragraphs (a) through (d) of this section without first being treated or rendered non-reactive.

(f) Such disposal is in compliance with the requirements of 40 CFR part 268. Persons who incinerate lab packs according to the requirements in 40 CFR 268.42(c)(1) may use fiber drums in place of metal outer containers. Such fiber drums must meet the DOT specifications in 49 CFR 173.12 and be overpacked according to the requirements in paragraph (b) of this section.

[46 FR 56596, Nov. 17, 1981, as amended at 55 FR 22686, June 1, 1990]

Subpart O—Incinerators

SOURCE: 46 FR 7680, Jan. 23, 1981, unless otherwise noted.

§ 265.340 Applicability.

(a) The regulations in this subpart apply to owners or operators of facilities that incinerate hazardous waste, except as § 264.1 provides otherwise. The following facility owners or operators are considered to incinerate hazardous waste:

(1) Owners or operators of hazardous waste incinerators (as defined in § 260.10 of this chapter); and

(2) Owners or operators who burn hazardous waste in boilers or in industrial furnaces in order to destroy them, or who burn hazardous waste in boilers or in industrial furnaces for any recycling purpose and elect to be regulated under this subpart.

(b) Owners and operators of incinerators burning hazardous waste are exempt from all of the requirements of this subpart, except § 265.351 (Closure), provided that the owner or operator has documented, in writing, that the waste would not reasonably be expected to contain any of the hazardous constituents listed in Part 261, Appendix VIII, of this chapter, and such documentation is retained at the facility, if the waste to be burned is:

(1) Listed as a hazardous waste in Part 261, Subpart D, of this chapter solely because it is ignitable (Hazard Code I), corrosive (Hazard Code C), or both; or

(2) Listed as a hazardous waste in Part 261, Subpart D, of this chapter solely because it is reactive (Hazard Code R) for characteristics other than those listed in § 261.23(a) (4) and (5), and will not be burned when other hazardous wastes are present in the combustion zone; or

(3) A hazardous waste solely because it possesses the characteristic of ignitability, corrosivity, or both, as determined by the tests for characteristics of hazardous wastes under Part 261, Subpart C, of this chapter; or

(4) A hazardous waste solely because it possesses the reactivity characteristics described by § 261.23(a) (1), (2), (3), (6), (7), or (8) of this chapter, and will not be burned when other hazardous wastes are present in the combustion zone.

[47 FR 27533, June 24, 1982 and 50 FR 666, Jan. 4, 1985, as amended at 50 FR 49203, Nov. 29, 1985]

§ 265.341 Waste analysis.

In addition to the waste analyses required by § 265.13, the owner or operator must sufficiently analyze any waste which he has not previously burned in his incinerator to enable him to establish steady state (normal) operating conditions (including waste and auxiliary fuel feed and air flow) and to determine the type of pollutants which might be emitted. At a minimum, the analysis must determine:

(a) Heating value of the waste;

(b) Halogen content and sulfur content in the waste; and

(c) Concentrations in the waste of lead and mercury, unless the owner or operator has written, documented data that show that the element is not present.

[*Comment:* As required by § 265.73, the owner or operator must place the results from each waste analysis, or the documented information, in the operating record of the facility.]

§§ 265.342—265.344 [Reserved]

§ 265.345 General operating requirements.

During start-up and shut-down of an incinerator, the owner or operator must not feed hazardous waste unless the incinerator is at steady state (normal) conditions of operation, including steady state operating temperature and air flow.

§ 265.346 [Reserved]

§ 265.347 Monitoring and inspections.

The owner or operator must conduct, as a minimum, the following monitoring and inspections when incinerating hazardous waste:

(a) Existing instruments which relate to combustion and emission control must be monitored at least every 15 minutes. Appropriate corrections to maintain steady state combustion conditions must be made immediately either automatically or by the operator. Instruments which relate to combustion and emission control would normally include those measuring waste feed, auxiliary fuel feed, air flow, incinerator temperature, scrubber flow, scrubber pH, and relevant level controls.

(b) The complete incinerator and associated equipment (pumps, valves, conveyors, pipes, etc.) must be inspected at least daily for leaks, spills, and fugitive emissions, and all emergency shutdown controls and system alarms must be checked to assure proper operation.

[46 FR 7678, Jan. 23, 1981, as amended at 47 FR 27533, June 24, 1982]

§§ 265.348—265.350 [Reserved]

§ 265.351 Closure.

At closure, the owner or operator must remove all hazardous waste and hazardous waste residues (including but not limited to ash, scrubber waters, and scrubber sludges) from the incinerator.

[*Comment:* At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with § 261.3(d) of this chapter, that the residue removed from his incinerator is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of Parts 262 through 266 of this chapter.]

§ 265.352 Interim status incinerators burning particular hazardous wastes.

(a) Owners or operators of incinerators subject to this subpart may burn EPA Hazardous Wastes FO20, FO21, FO22, FO23, FO26, or FO27 if they receive a certification from the Assistant Administrator for Solid Waste and Emergency Response that they can meet the performance standards of Subpart O of Part 264 when they burn these wastes.

(b) The following standards and procedures will be used in determining whether to certify an incinerator:

(1) The owner or operator will submit an application to the Assistant Administrator for Solid Waste and Emergency Response containing applicable information in §§ 270.19 and 270.62 demonstrating that the incinerator can meet the performance standards in Subpart O of Part 264 when they burn these wastes.

(2) The Assistant Administrator for Solid Waste and Emergency Response will issue a tentative decision as to whether the incinerator can meet the performance standards in Subpart O of Part 264. Notification of this tentative decision will be provided by newspaper advertisement and radio broadcast in the jurisdiction where the incinerator is located. The Assistant Administrator for Solid Waste and Emergency Response will accept comment on the tentative decision for 60 days. The Assistant Administrator for Solid Waste and Emergency Response also may hold a public hearing upon request or at his discretion.

(3) After the close of the public comment period, the Assistant Administrator for Solid Waste and Emergency Response will issue a decision whether or not to certify the incinerator.

[50 FR 2005, Jan. 14, 1985]

§§ 265.353—265.369 [Reserved]

Subpart P—Thermal Treatment

§ 265.370 Other thermal treatment.

The regulations in this subpar apply to owners or operators of facilities that thermally treat hazardou waste in devices other than enclose devices using controlled flame combustion, except as § 265.1 provides otherwise. Thermal treatment in enclosed devices using controlled flame combustion is subject to the requirements o Subpart O if the unit is an incinerator

[50 FR 666, Jan. 4, 1985]

§§ 265.371—265.372 [Reserved]

§ 265.373 General operating requirements.

Before adding hazardous waste, the owner or operator must bring his thermal treatment process to steady state (normal) conditions of operation—including steady state operating temperature—using auxiliary fuel or other means, unless the process is a non-continuous (batch) thermal treatment process which requires a complete thermal cycle to treat a discrete quantity of hazardous waste.

§ 265.374 [Reserved]

§ 265.375 Waste analysis.

In addition to the waste analyses required by § 265.13, the owner or operator must sufficiently analyze any waste which he has not previously treated in his thermal process to enable him to establish steady state (normal) or other appropriate (for a non-continuous process) operating conditions (including waste and auxiliary fuel feed) and to determine the type of pollutants which might be emitted. At a minimum, the analysis must determine:

(a) Heating value of the waste;

(b) Halogen content and sulfur content in the waste; and

(c) Concentrations in the waste of lead and mercury, *unless* the owner or operator has written, documented data that show that the element is not present.

[*Comment:* As required by § 265.73, the owner or operator must place the results from each waste analysis, or the documented information, in the operating record of the facility.]

§ 265.376 [Reserved]

§ 265.377 Monitoring and inspections.

(a) The owner or operator must conduct, as a minimum, the following monitoring and inspections when thermally treating hazardous waste:

(1) Existing instruments which relate to temperature and emission control (if an emission control device is present) must be monitored at least every 15 minutes. Appropriate corrections to maintain steady state or other appropriate thermal treatment conditions must be made immediately either automatically or by the operator. Instruments which relate to temperature and emission control would normally include those measuring waste feed, auxiliary fuel feed, treatment process temperature, and relevant process flow and level controls.

(2) The stack plume (emissions), where present, must be observed visually at least hourly for normal appearance (color and opacity). The operator must immediately make any indicated operating corrections necessary to return any visible emissions to their normal appearance.

(3) The complete thermal treatment process and associated equipment (pumps, valves, conveyors, pipes, etc.) must be inspected at least daily for leaks, spills, and fugitive emissions, and all emergency shutdown controls and system alarms must be checked to assure proper operation.

§§ 265.378—265.380 [Reserved]

§ 265.381 Closure.

At closure, the owner or operator must remove all hazardous waste and hazardous waste residues (including, but not limited to, ash) from the thermal treatment process or equipment.

[*Comment:* At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with § 261.3(c) or (d) of this chapter, that any solid waste removed from his thermal treatment process or equipment is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of Parts 262, 263, and 265 of this chapter.]

§ 265.382 Open burning; waste explosives.

Open burning of hazardous waste is prohibited except for the open burning and detonation of waste explosives. Waste explosives include waste which has the potential to detonate and bulk military propellants which cannot safely be disposed of through other modes of treatment. Detonation is an explosion in which chemical transformation passes through the material faster than the speed of sound (0.33 kilometers/second at sea level). Owners or operators choosing to open burn or detonate waste explosives must do so in accordance with the following table and in a manner that does not threaten human health or the environment.

Pounds of waste explosives or propellants	Minimum distance from open burning or detonation to the property of others
0 to 100	204 meters (670 feet).
101 to 1,000	380 meters (1,250 feet).
1,001 to 10,000	530 meters (1,730 feet).
10,001 to 30,000	690 meters (2,260 feet).

§ 265.383 Interim status thermal treatment devices burning particular hazardous waste.

(a) Owners or operators of thermal treatment devices subject to this subpart may burn EPA Hazardous Wastes FO20, FO21, FO22, FO23, FO26, or FO27 if they receive a certification from the Assistant Administrator for Solid Waste and Emergency Response that they can meet the performance standards of Subpart O of Part 264 when they burn these wastes.

(b) The following standards and procedures will be used in determining whether to certify a thermal treatment unit:

(1) The owner or operator will submit an application to the Assistant Administrator for Solid Waste and Emergency Response containing the applicable information in §§ 270.19 and 270.62 demonstrating that the thermal treatment unit can meet the performance standard in Subpart O of Part 264 when they burn these wastes.

(2) The Assistant Administrator for Solid Waste and Emergency Response will issue a tentative decision as to whether the thermal treatment unit can meet the performance standards in Subpart O of Part 264. Notification of this tentative decision will be provided by newspaper advertisement and radio broadcast in the jurisdiction where the thermal treatment device is located. The Assistant Administrator for Solid Waste and Emergency Response will accept comment on the tentative decision for 60 days. The Assistant Administrator for Solid Waste and Emergency Response also may hold a public hearing upon request or at his discretion.

(3) After the close of the public comment period, the Assistant Administrator for Solid Waste and Emergency Response will issue a decision whether or not to certify the thermal treatment unit.

[50 FR 2005, Jan. 14, 1985]

Subpart Q—Chemical, Physical, and Biological Treatment

§ 265.400 Applicability.

The regulations in this subpart apply to owners and operators of facilities which treat hazardous wastes by chemical, physical, or biological methods in other than tanks, surface impoundments, and land treatment facilities, except as § 265.1 provides otherwise. Chemical, physical, and biological treatment of hazardous waste in tanks, surface impoundments, and land treatment facilities must be conducted in accordance with Subparts J, K, and M, respectively.

§ 265.401 General operating requirements.

(a) Chemical, physical, or biological treatment of hazardous waste must comply with § 265.17(b).

(b) Hazardous wastes or treatment reagents must not be placed in the treatment process or equipment if they could cause the treatment process or equipment to rupture, leak, corrode, or otherwise fail before the end of its intended life.

(c) Where hazardous waste is continuously fed into a treatment process or equipment, the process or equipment must be equipped with a means to stop this inflow (e.g., a waste feed cut-off system or by-pass system to a standby containment device).

[*Comment:* These systems are intended to be used in the event of a malfunction in the treatment process or equipment.]

§ 265.402 Waste analysis and trial tests.

(a) In addition to the waste analysis required by § 265.13, whenever:

(1) A hazardous waste which is substantially different from waste previously treated in a treatment process or equipment at the facility is to be treated in that process or equipment, or

(2) A substantially different process than any previously used at the facility is to be used to chemically treat hazardous waste;

the owner or operator must, before treating the different waste or using the different process or equipment:

(i) Conduct waste analyses and trial treatment tests (e.g., bench scale or pilot plant scale tests); or

(ii) Obtain written, documented information on similar treatment of similar waste under similar operating conditions;

to show that this proposed treatment will meet all applicable requirements of § 265.401 (a) and (b).

[*Comment:* As required by § 265.13, the waste analysis plan must include analyses needed to comply with §§ 265.405 and 265.406. As required by § 265.73, the owner or operator must place the results from each waste analysis and trial test, or the documented information, in the operating record of the facility.]

§ 265.403 Inspections.

(a) The owner or operator of a treatment facility must inspect, where present:

(1) Discharge control and safety equipment (e.g., waste feed cut-off systems, by-pass systems, drainage systems, and pressure relief systems) at least once each operating day, to ensure that it is in good working order;

(2) Data gathered from monitoring equipment (e.g., pressure and temperature gauges), at least once each operating day, to ensure that the treatment process or equipment is being operated according to its design;

(3) The construction materials of the treatment process or equipment, at least weekly, to detect corrosion or leaking of fixtures or seams; and

(4) The construction materials of, and the area immediately surrounding, discharge confinement structures (e.g., dikes), at least weekly, to detect erosion or obvious signs of leakage (e.g., wet spots or dead vegetation).

[*Comment:* As required by § 265.15(c), the owner or operator must remedy any deterioration or malfunction he finds.]

§ 265.404 Closure.

At closure, all hazardous waste and hazardous waste residues must be removed from treatment processes or equipment, discharge control equipment, and discharge confinement structures.

[*Comment:* At closure, as throughout the operating period, unless the owner or operator can demonstrate, in accordance with § 261.3 (c) or (d) of this chapter, that any solid waste removed from his treatment process or equipment is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with all applicable requirements of Parts 262, 263, and 265 of this chapter.]

§ 265.405 Special requirements for ignitable or reactive waste.

(a) Ignitable or reactive waste must not be placed in a treatment process or equipment unless:

(1) The waste is treated, rendered, or mixed before or immediately after placement in the treatment process or equipment so that (i) the resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under § 261.21 or 261.23 or this chapter, and (ii) § 265.17(b) is complied with; or

(2) The waste is treated in such a way that it is protected from any material or conditions which may cause the waste to ignite or react.

§ 265.406 Special requirements for incompatible wastes.

(a) Incompatible wastes, or incompatible wastes and materials, (see Appendix V for examples) must not be placed in the same treatment process or equipment, unless § 265.17(b) is complied with.

(b) Hazardous waste must not be placed in unwashed treatment equipment which previously held an incompatible waste or material, unless § 265.17(b) is complied with.

Subpart R—Underground Injection

§ 265.430 Applicability.

Except as § 265.1 provides otherwise:

(a) The owner or operator of a facility which disposes of hazardous waste by underground injection is excluded from the requirements of Subparts G and H of this part.

(b) The requirements of this subpart apply to owners and operators of wells used to dispose of hazardous waste which are classified as Class I under § 144.6(a) of this chapter and which are classified as Class IV under § 144.6(d) of this chapter.

[*Comment:* In addition to the requirements of Subparts A through E of this part, the owner or operator of a facility which disposes of hazardous waste by underground injection ultimately must comply with the requirements of §§ 265.431 through 265.437. These sections are reserved at this time. The Agency will propose regulations that would establish those requirements.]

[45 FR 33232, May 19, 1980, as amended at 48 FR 30115, June 30, 1983]

Subparts S—Z [Reserved]

Subpart AA—Air Emission Standards for Process Vents

SOURCE: 55 FR 25507, June 21, 1990, unless otherwise noted.

EFFECTIVE DATE NOTE: At 55 FR 25507, June 21, 1990, §§ 265.1030 through 265.1049 (Subpart AA) were added, effective December 21, 1990.

§ 265.1030 Applicability.

(a) The regulations in this subpart apply to owners and operators of facilities that treat, store, or dispose of hazardous wastes (except as provided in § 265.1).

(b) Except for §§ 265.1034(d) and 265.1035(d), this subpart applies to process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations that manage hazardous wastes with organic concentrations of at least 10 ppmw, if these operations are conducted in:

(1) Units that are subject to the permitting requirements of part 270, or

(2) Hazardous waste recycling units that are located on hazardous waste management facilities otherwise subject to the permitting requirements of part 270.

[NOTE: The requirements of §§ 265.1032 through 265.1036 apply to process vents on hazardous waste recycling units previously exempt under paragraph 261.6(c)(1). Other exemptions under §§ 261.4, 262.34, and 265.1(c) are not affected by these requirements.]

§ 265.1031 Definitions.

As used in this subpart, all terms shall have the meaning given them in § 264.1031, the Act, and parts 260–266.

§ 265.1032 Standards: Process vents.

(a) The owner or operator of a facility with process vents associated with distillation, fractionation, thin-film evaporation, solvent extraction or air or steam stripping operations managing hazardous wastes with organic concentrations at least 10 ppmw shall either:

(1) Reduce total organic emissions from all affected process vents at the facility below 1.4 kg/h (3 lb/h) and 2.8 Mg/yr (3.1 tons/yr), or

(2) Reduce, by use of a control device, total organic emissions from all affected process vents at the facility by 95 weight percent.

(b) If the owner or operator installs a closed-vent system and control device to comply with the provisions of paragraph (a) of this section, the closed-vent system and control device must meet the requirements of § 265.1033.

(c) Determinations of vent emissions and emission reductions or total organic compound concentrations achieved by add-on control devices may be based on engineering calculations or performance tests. If performance tests are used to determine vent emissions, emission reductions, or total organic compound concentrations achieved by add-on control devices, the performance tests must conform with the requirements of § 265.1034(c).

(d) When an owner or operator and the Regional Administrator do not agree on determinations of vent emissions and/or emission reductions or total organic compound concentrations achieved by add-on control devices based on engineering calculations, the test methods in § 265.1034(c) shall be used to resolve the disagreement.

§ 265.1033 Standards: Closed-vent systems and control devices.

(a)(1) Owners or operators of closed-vent systems and control devices used to comply with provisions of this part shall comply with the provisions of this section.

(2) The owner or operator of an existing facility who cannot install a closed-vent system and control device to comply with the provisions of this subpart on the effective date that the facility becomes subject to the provisions of this subpart must prepare an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The controls must be installed as soon as possible, but the implementation schedule may allow up to 18 months after the effective date that the facility becomes subject to this subpart for installation and startup. All units that begin operation after December 21, 1990 must comply with the rules immediately (i.e., must have control devices installed and operating on startup of the affected unit); the 2-year implementation schedule does not apply to these units.

(b) A control device involving vapor recovery (e.g., a condenser or adsorber) shall be designed and operated to recover the organic vapors vented to it with an efficiency of 95 weight percent or greater unless the total organic emission limits of § 265.1032(a)(1) for all affected process vents can be attained at an efficiency less than 95 weight percent.

(c) An enclosed combustion device (e.g., a vapor incinerator, boiler, or process heater) shall be designed and operated to reduce the organic emissions vented to it by 95 weight percent or greater; to achieve a total organic compound concentration of 20 ppmv, expressed as the sum of the actual compounds, not carbon equivalents, on a dry basis corrected to 3 percent oxygen; or to provide a minimum residence time of 0.50 seconds at a minimum temperature of 760 °C. If a boiler or process heater is used as the control device, then the vent stream shall be introduced into the flame combustion zone of the boiler or process heater.

(d)(1) A flare shall be designed for and operated with no visible emissions as determined by the methods specified in paragraph (e)(1) of this section, except for periods not to exceed a total of 5 minutes during any 2 consecutive hours.

(2) A flare shall be operated with a flame present at all times, as determined by the methods specified in paragraph (f)(2)(iii) of this section.

(3) A flare shall be used only if the net heating value of the gas being combusted is 11.2 MJ/scm (300 Btu/scf) or greater, if the flare is steam-assisted or air-assisted; or if the net heating value of the gas being combusted is 7.45 MJ/scm (200 Btu/scf) or greater if the flare is nonassisted. The net heating value of the gas being combusted shall be determined by the methods specified in paragraph (e)(2) of this section.

(4)(i) A steam-assisted or nonassisted flare shall be designed for and operated with an exit velocity, as determined by the methods specified in paragraph (e)(3) of this section, of less than 18.3 m/s (60 ft/s), except as provided in paragraphs (d)(4) (ii) and (iii) of this section.

(ii) A steam-assisted or nonassisted flare designed for and operated with an exit velocity, as determined by the methods specified in paragraph (e)(3) of this section, equal to or greater than 18.3 m/s (60 ft/s) but less than 122 m/s (400 ft/s) is allowed if the net heating value of the gas being combusted is greater than 37.3 MJ/scm (1,000 Btu/scf).

(iii) A steam-assisted or nonassisted flare designed for and operated with an exit velocity, as determined by the methods specified in paragraph (e)(3) of this section, less than the velocity, V_{max}, as determined by the method specified in paragraph (e)(4) of this section, and less than 122 m/s (400 ft/s) is allowed.

(5) An air-assisted flare shall be designed and operated with an exit velocity less than the velocity, V_{max}, as determined by the method specified in paragraph (e)(5) of this section.

(6) A flare used to comply with this section shall be steam-assisted, air-assisted, or nonassisted.

(e)(1) Reference Method 22 in 40 CFR part 60 shall be used to determine the compliance of a flare with the visible emission provisions of this subpart. The observation period is 2 hours and shall be used according to Method 22.

(2) The net heating value of the gas being combusted in a flare shall be calculated using the following equation:

$$H_T = K \left[\sum_{i=1}^{n} C_i H_i \right]$$

where:

H_T = Net heating value of the sample, MJ/scm; where the net enthalpy per mole of offgas is based on combustion at 25 °C and 760 mm Hg, but the standard temperature for determining the volume corresponding to 1 mol is 20 °C;

K = Constant, 1.74×10^{-7} (1/ppm) (g mol/scm) (MJ/kcal) where standard temperature for (g mol/scm) is 20 °C;

C_i = Concentration of sample component i in ppm on a wet basis, as measured for organics by Reference Method 18 in 40 CFR part 60 and measured for hydrogen and carbon monoxide by ASTM D 1946-82 (incorporated by reference as specified in § 260.11); and

H_i = Net heat of combustion of sample component i, kcal/g mol at 25 °C and 760 mm Hg. The heats of combustion may be determined using ASTM D 2382-83 (incorporated by reference as specified in § 260.11) if published values are not available or cannot be calculated.

(3) The actual exit velocity of a flare shall be determined by dividing the volumetric flow rate (in units of standard temperature and pressure), as determined by Reference Methods 2, 2A, 2C, or 2D in 40 CFR part 60 as appropriate, by the unobstructed (free) cross-sectional area of the flare tip.

(4) The maximum allowed velocity in m/s, V_{max}, for a flare complying

with paragraph (d)(4)(iii) of this section shall be determined by the following equation:

$$\text{Log}_{10}(V_{max}) = (H_T + 28.8)/31.7$$

where:

H_T = The net heating value as determined in paragraph (e)(2) of this section.
28.8 = Constant.
31.7 = Constant.

(5) The maximum allowed velocity in m/s, V_{max}, for an air-assisted flare shall be determined by the following equation:

$$V_{max} = 8.706 + 0.7084\ (H_T)$$

where:

8.706 = Constant.
0.7084 = Constant.
H_T = The net heating value as determined in paragraph (e)(2) of this section.

(f) The owner or operator shall monitor and inspect each control device required to comply with this section to ensure proper operation and maintenance of the control device by implementing the following requirements:

(1) Install, calibrate, maintain, and operate according to the manufacturer's specifications a flow indicator that provides a record of vent stream flow from each affected process vent to the control device at least once every hour. The flow indicator sensor shall be installed in the vent stream at the nearest feasible point to the control device inlet, but before being combined with other vent streams.

(2) Install, calibrate, maintain, and operate according to the manufacturer's specifications a device to continuously monitor control device operation as specified below:

(i) For a thermal vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ±1 percent of the temperature being monitored in °C or ±0.5 °C, whichever is greater. The temperature sensor shall be installed at a location in the combustion chamber downstream of the combustion zone.

(ii) For a catalytic vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature at two locations and have an accuracy of ±1 percent of the temperature being monitored in °C or ±0.5 °C, whichever is greater. One temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed inlet and a second temperature sensor shall be installed in the vent stream at the nearest feasible point to the catalyst bed outlet.

(iii) For a flare, a heat sensing monitoring device equipped with a continuous recorder that indicates the continuous ignition of the pilot flame.

(iv) For a boiler or process heater having a design heat input capacity less than 44 MW, a temperature monitoring device equipped with a continuous recorder. The device shall have an accuracy of ±1 percent of the temperature being monitored in °C or ±0.5 °C, whichever is greater. The temperature sensor shall be installed at a location in the furnace downstream of the combustion zone.

(v) For a boiler or process heater having a design heat input capacity greater than or equal to 44 MW, a monitoring device equipped with a continuous recorder to measure a parameter(s) that indicates good combustion operating practices are being used.

(vi) For a condenser, either:

(A) A monitoring device equipped with a continuous recorder to measure the concentration level of the organic compounds in the exhaust vent stream from the condenser; or

(B) A temperature monitoring device equipped with a continuous recorder. The device shall be capable of monitoring temperature at two locations and have an accuracy of ±1 percent of the temperature being monitored in °C or ±0.5 °C, whichever is greater. One temperature sensor shall be installed at a location in the exhaust vent stream from the condenser, and a second temperature sensor shall be installed at a location in the coolant fluid exiting the condenser.

(vii) For a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly in the control device, either:

(A) A monitoring device equipped with a continuous recorder to measure the concentration level of the organic compounds in the exhaust vent stream from the carbon bed, or

(B) A monitoring device equipped with a continuous recorder to measure a parameter that indicates the carbon bed is regenerated on a regular, predetermined time cycle.

(3) Inspect the readings from each monitoring device required by paragraphs (f) (1) and (2) of this section at least once each operating day to check control device operation and, if necessary, immediately implement the corrective measures necessary to ensure the control device operates in compliance with the requirements of this section.

(g) An owner or operator using a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device, shall replace the existing carbon in the control device with fresh carbon at a regular, predetermined time interval that is no longer than the carbon service life established as a requirement of § 265.1035(b)(4)(iii)(F).

(h) An owner or operator using a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly onsite in the control device shall replace the existing carbon in the control device with fresh carbon on a regular basis by using one of the following procedures:

(1) Monitor the concentration level of the organic compounds in the exhaust vent stream from the carbon adsorption system on a regular schedule and replace the existing carbon with fresh carbon immediately when carbon breakthrough is indicated. The monitoring frequency shall be daily or at an interval no greater than 20 percent of the time required to consume the total carbon working capacity established as a requirement of § 265.1035(b)(4)(iii)(G), whichever is longer.

(2) Replace the existing carbon with fresh carbon at a regular, predetermined time interval that is less than the design carbon replacement interval established as a requirement of § 265.1035(b)(4)(iii)(G).

(i) An owner or operator of an affected facility seeking to comply with he provisions of this part by using a ontrol device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system is required to develop documentation including sufficient information to describe the control device operation and identify the process parameter or parameters that indicate proper operation and maintenance of the control device.

(j)(1) Closed-vent systems shall be designed for and operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background and by visual inspections, as determined by the methods specified as § 265.1034(b).

(2) Closed-vent systems shall be monitored to determine compliance with this section during the initial leak detection monitoring which shall be conducted by the date that the facility becomes subject to the provisions of this section, annually, and at other times as requested by the Regional Administrator.

(3) Detectable emissions, as indicated by an instrument reading greater than 500 ppm and visual inspections, shall be controlled as soon as practicable, but not later than 15 calendar days after the emission is detected.

(4) A first attempt at repair shall be made no later than 5 calendar days after the emission is detected.

(k) Closed-vent systems and control devices used to comply with provisions of this subpart shall be operated at all times when emissions may be vented to them.

§ 265.1034 Test methods and procedures.

(a) Each owner or operator subject to the provisions of this subpart shall comply with the test methods and procedures requirements provided in this section.

(b) When a closed-vent system is tested for compliance with no detectable emissions, as required in § 265.1033(j), the test shall comply with the following requirements:

(1) Monitoring shall comply with Reference Method 21 in 40 CFR part 60.

(2) The detection instrument shall meet the performance criteria of Reference Method 21.

(3) The instrument shall be calibrated before use on each day of its use by the procedures specified in Reference Method 21.

(4) Calibration gases shall be:

(i) Zero air (less than 10 ppm of hydrocarbon in air).

(ii) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, 10,000 ppm methane or n-hexane.

(5) The background level shall be determined as set forth in Reference Method 21.

(6) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(7) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(c) Performance tests to determine compliance with § 265.1032(a) and with the total organic compound concentration limit of § 265.1033(c) shall comply with the following:

(1) Performance tests to determi total organic compound concentr tions and mass flow rates entering a exiting control devices shall be co ducted and data reduced in accordan with the following reference metho and calculation procedures:

(i) Method 2 in 40 CFR part 60 f velocity and volumetric flow rate.

(ii) Method 18 in 40 CFR part 60 f organic content.

(iii) Each performance test sha consist of three separate runs; eac run conducted for at least 1 hou under the conditions that exist whe the hazardous waste management un is operating at the highest load or c pacity level reasonably expected t occur. For the purpose of determinin total organic compound concentr tions and mass flow rates, the averag of results of all runs shall apply. Th average shall be computed on a time weighted basis.

(iv) Total organic mass flow rate shall be determined by the followin equation:

$$E_h = Q_{sd} \left[\sum_{i=1}^{n} C_i MW_i \right] [0.0416] [10^{-6}]$$

where:

E_h = Total organic mass flow rate, kg/h;

Q_{sd} = Volumetric flow rate of gases entering or exiting control device, as determined by Method 2, dscm/h;

n = Number of organic compounds in the vent gas;

C_i = Organic concentration in ppm, dry basis, of compound i in the vent gas, as determined by Method 18;

MW_i = Molecular weight of organic compound i in the vent gas, kg/kg-mol;

0.0416 = Conversion factor for molar volume, kg-mol/m^3 (@ 293 K and 760 mm Hg);

10^{-6} = Conversion from ppm, ppm^{-1}.

(v) The annual total organic emission rate shall be determined by the following equation:

$E_A = (E_h) (H)$

where:

E_A = Total organic mass emission rate, kg/y;

E_h = Total organic mass flow rate for the process vent, kg/h;

H = Total annual hours of operations for the affected unit, h.

(vi) Total organic emissions from all affected process vents at the facility shall be determined by summing the hourly total organic mass emission rates (E_h, as determined in paragraph (c)(1)(v) of this section) and by summing the annual total organic mass emission rates (E_A, as determined in paragraph (c)(1)(v) of this section) for all affected process vents at the facility.

(2) The owner or operator shall record such process information as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test.

(3) The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

(i) Sampling ports adequate for the test methods specified in paragraph (c)(1) of this section.

(ii) Safe sampling platform(s).

(iii) Safe access to sampling platform(s).

(iv) Utilities for sampling and testing equipment.

(4) For the purpose of making compliance determinations, the time-weighted average of the results of the three runs shall apply. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the owner or operator's control, compliance may, upon the Regional Administrator's approval, be determined using the average of the results of the two other runs.

(d) To show that a process vent associated with a hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation is not subject to the requirements of this subpart, the owner or operator must make an initial determination that the time-weighted, annual average total organic concentration of the waste managed by the waste management unit is less than 10 ppmw using one of the following two methods:

(1) Direct measurement of the organic concentration of the waste using the following procedures:

(i) The owner or operator must take a minimum of four grab samples of waste for each waste stream managed in the affected unit under process conditions expected to cause the maximum waste organic concentration.

(ii) For waste generated onsite, the grab samples must be collected at a point before the waste is exposed to the atmosphere such as in an enclosed pipe or other closed system that is used to transfer the waste after generation to the first affected distillation fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation. For waste generated offsite, the grab samples must be collected at the inlet to the first waste management unit that receives the waste provided the waste has been transferred to the facility in a closed system such as a tank truck and the waste is not diluted or mixed with other waste.

(iii) Each sample shall be analyzed and the total organic concentration of the sample shall be computed using Method 9060 or 8240 of SW-846 (incorporated by reference under § 260.11).

(iv) The arithmetic mean of the results of the analyses of the four samples shall apply for each waste stream managed in the unit in determining the time-weighted, annual average total organic concentration of the waste. The time-weighted average is to be calculated using the annual quantity of each waste stream processed and the mean organic concentration of each waste stream managed in the unit.

(2) Using knowledge of the waste to determine that its total organic concentration is less than 10 ppmw. Documentation of the waste determination is required. Examples of documentation that shall be used to support a determination under this provision include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to generate a waste stream having a total organic content less than 10 ppmw, or prior speciation analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.

(e) The determination that distillation fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations manage hazardous wastes with time-weighted annual average total organic concentrations less than 10 ppmw shall be made as follows:

(1) By the effective date that the facility becomes subject to the provi-

sions of this subpart or by the date when the waste is first managed in a waste management unit, whichever is later; and

(2) For continuously generated waste, annually; or

(3) Whenever there is a change in the waste being managed or a change in the process that generates or treats the waste.

(f) When an owner or operator and the Regional Administrator do not agree on whether a distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation manages a hazardous waste with organic concentrations of at least 10 ppmw based on knowledge of the waste, the procedures in Method 8240 can be used to resolve the dispute.

§ 265.1035 Recordkeeping requirements.

(a)(1) Each owner or operator subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section.

(2) An owner or operator of more than one hazardous waste management unit subject to the provisions of this subpart may comply with the recordkeeping requirements for these hazardous waste management units in one recordkeeping system if the system identifies each record by each hazardous waste management unit.

(b) Owners and operators must record the following information in the facility operating record:

(1) For facilities that comply with the provisions of § 265.1033(a)(2), an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The schedule must also include a rationale of why the installation cannot be completed at an earlier date. The implementation schedule must be in the facility operating record by the effective date that the facility becomes subject to the provisions of this subpart.

(2) Up-to-date documentation of compliance with the process vent standards in § 265.1032, including:

(i) Information and data identifying all affected process vents, annual throughput end operating hours of each affected unit, estimated emission rates for each affected vent and f the overall facility (i.e., the total emi sions for all affected vents at the faci ity), and the approximate locatio within the facility of each affecte unit (e.g., identify the hazardou waste management units on a facilit plot plan); and

(ii) Information and data supportin determinations of vent emissions an emission reductions achieved by add on control devices based on engineer ing calculations or source tests. Fo the purpose of determining compli ance, determinations of vent emission and emission reductions must be mad using operating parameter values (e.g temperatures, flow rates or ven stream organic compounds and con centrations) that represent the condi tions that result in maximum organi emissions, such as when the wast management unit is operating at the highest load or capacity level reasonably expected to occur. If the owner or operator takes any action (e.g., managing a waste of different composition or increasing operating hours of affected waste management units) that would result in an increase in total organic emissions from affected process vents at the facility, then a new determination is required.

(3) Where an owner or operator chooses to use test data to determine the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan. The test plan must include:

(i) A description of how it is determined that the planned test is going to be conducted when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. This shall include the estimated or design flow rate and organic content of each vent stream and define the acceptable operating ranges of key process and control device parameters during the test program.

(ii) A detailed engineering description of the closed-vent system and control device including:

(A) Manufacturer's name and model number of control device.

(B) Type of control device.

(C) Dimensions of the control devic

(D) Capacity.

(E) Construction materials.

(iii) A detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.

(4) Documentation of compliance with § 265.1033 shall include the following information:

(i) A list of all information references and sources used in preparing the documentation.

(ii) Records including the dates of each compliance test required by § 265.1033(j).

(iii) If engineering calculations are used, a design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on the appropriate sections of "APTI Course 415: Control of Gaseous Emissions" (incorporated by reference as specified in § 260.11) or other engineering texts acceptable to the Regional Administrator that present basic control device design information. Documentation provided by the control device manufacturer or vendor that describes the control device design in accordance with paragraphs (b)(4)(iii)(A) through (b)(4)(iii)(G) of this section may be used to comply with this requirement. The design analysis shall address the vent stream characteristics and control device operation parameters as specified below.

(A) For a thermal vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperature in the combustion zone and the combustion zone residence time.

(B) For a catalytic vapor incinerator, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average temperatures across the catalyst bed inlet and outlet.

(C) For a boiler or process heater, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also establish the design minimum and average flame zone temperatures, combustion zone residence time, and description of method and location where the vent stream is introduced into the combustion zone.

(D) For a flare, the design analysis shall consider the vent stream composition, constituent concentrations, and flow rate. The design analysis shall also consider the requirements specified in § 265.1033(d).

(E) For a condenser, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic compound concentration level, design average temperature of the condenser exhaust vent stream, and design average temperatures of the coolant fluid at the condenser inlet and outlet.

(F) For a carbon adsorption system such as a fixed-bed adsorber that regenerates the carbon bed directly onsite in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design exhaust vent stream organic compound concentration level, number and capacity of carbon beds, type and working capacity of activated carbon used for carbon beds, design total steam flow over the period of each complete carbon bed regeneration cycle, duration of the carbon bed steaming and cooling/drying cycles, design carbon bed temperature after regeneration, design carbon bed regeneration time, and design service life of carbon.

(G) For a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly onsite in the control device, the design analysis shall consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis shall also establish the design outlet organic concentration level, capacity of carbon bed, type and working capacity of activated carbon used for carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule.

(iv) A statement signed and dated by the owner or operator certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is or would be operating at the highest load or capacity level reasonably expected to occur.

(v) A statement signed and dated by the owner or operator certifying that the control device is designed to operate at an efficiency of 95 percent or greater unless the total organic concentration limit of § 265.1032(a) is achieved at an efficiency less than 95 weight percent or the total organic emission limits of § 265.1032(a) for affected process vents at the facility can be attained by a control device involving vapor recovery at an efficiency less than 95 weight percent. A statement provided by the control device manufacturer or vendor certifying that the control equipment meets the design specifications may be used to comply with this requirement.

(vi) If performance tests are used to demonstrate compliance, all test results.

(c) Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required to comply with the provisions of this part shall be recorded and kept up-to-date in the facility operating record. The information shall include:

(1) Description and date of each modification that is made to the closed-vent system or control device design.

(2) Identification of operating parameter, description of monitoring device, and diagram of monitoring sensor location or locations used to comply with § 265.1033(f)(1) and (f)(2).

(3) Monitoring, operating and inspection information required by paragraphs (f) through (j) of § 265.1033.

(4) Date, time, and duration of each period that occurs while the control device is operating when any monitored parameter exceeds the value established in the control device design analysis as specified below:

(i) For a thermal vapor incinerator designed to operate with a minimum residence time of 0.50 seconds at a minimum temperature of 760 °C, period when the combustion temperature is below 760 °C.

(ii) For a thermal vapor incinerator designed to operate with an organic emission reduction efficiency of 95 percent or greater, period when the combustion zone temperature is more than 28 °C below the design average combustion zone temperature established as a requirement of paragraph (b)(4)(iii)(A) of this section.

(iii) For a catalytic vapor incinerator, period when:

(A) Temperature of the vent stream at the catalyst bed inlet is more than 28 °C below the average temperature of the inlet vent stream established as a requirement of paragraph (b)(4)(iii)(B) of this section; or

(B) Temperature difference across the catalyst bed is less than 80 percent of the design average temperature difference established as a requirement of paragraph (b)(4)(iii)(B) of this section.

(iv) For a boiler or process heater, period when:

(A) Flame zone temperature is more than 28 °C below the design average flame zone temperature established as a requirement of paragraph (b)(4)(iii)(C) of this section; or

(B) Position changes where the vent stream is introduced to the combustion zone from the location established as a requirement of paragraph (b)(4)(iii)(C) of this section.

(v) For a flare, period when the pilot flame is not ignited.

(vi) For a condenser that complies with § 265.1033(f)(2)(vi)(A), period when the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the condenser are more than 20 percent greater than the design outlet organic compound concentration level established as a requirement of paragraph (b)(4)(iii)(E) of this section.

(vii) For a condenser that complies with § 265.1033(f)(2)(vi)(B), period when:

(A) Temperature of the exhaust vent stream from the condenser is more than 6 °C above the design average exhaust vent stream temperature established as a requirement of paragraph (b)(4)(iii)(E) of this section; or

(B) Temperature of the coolant fluid exiting the condenser is more than 6 °C above the design average coolant fluid temperature at the condenser outlet established as a requirement of paragraph (b)(4)(iii)(E) of this section.

(viii) For a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device and complies with § 265.1033(f)(2)(vii)(A), period when the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the carbon bed are more than 20 percent greater than the design exhaust vent stream organic compound concentration level established as a requirement of paragraph b)(4)(iii)(F) of this section.

(ix) For a carbon adsorption system uch as a fixed-bed carbon adsorber hat regenerates the carbon bed diectly onsite in the control device and omplies with § 265.1033(f)(2)(vii)(B), eriod when the vent stream continues o flow through the control device eyond the predetermined carbon bed egeneration time established as a reuirement of paragraph (b)(4)(iii)(F) f this section.

(5) Explanation for each period rerded under paragraph (3) of the use for control device operating pameter exceeding the design value d the measures implemented to corct the control device operation.

(6) For carbon adsorption systems erated subject to requirements speced in § 265.1033(g) or 265.1033(h)(2), date when existing rbon in the control device is reaced with fresh carbon.

7) For carbon adsorption systems erated subject to requirements speced in § 265.1033(h)(1), a log that cords:

i) Date and time when control vice is monitored for carbon breakrough and the monitoring device ding.

ii) Date when existing carbon in the ntrol device is replaced with fresh bon.

8) Date of each control device startand shutdown.

(d) Records of the monitoring, operating, and inspection information required by paragraphs (c)(3) through (c)(8) of this section need be kept only 3 years.

(e) For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, monitoring and inspection information indicating proper operation and maintenance of the control device must be recorded in the facility operating record.

(f) Up-to-date information and data used to determine whether or not a process vent is subject to the requirements in § 265.1032 including supporting documentation as required by § 265.1034(d)(2) when application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used, shall be recorded in a log that is kept in the facility operating record.

(Approved by the Office of Management and Budget under control number 2060-0195)

§§ 265.1036—265.1049 [Reserved]

Subpart BB—Air Emission Standards for Equipment Leaks

SOURCE: 55 FR 25512, June 21, 1990, unless otherwise noted.

EFFECTIVE DATE NOTE: At 55 FR 25512, June 21, 1990, §§ 265.1050 through 265.1079 (Subpart BB) were added, effective December 21, 1990.

§ 265.1050 Applicability.

(a) The regulations in this subpart apply to owners and operators of facilities that treat, store, or dispose of hazardous wastes (except as provided in § 265.1).

(b) Except as provided in § 265.1064(j), this subpart applies to equipment that contains or contacts hazardous wastes with organic concentrations of at least 10 percent by weight that are managed in:

(1) Units that are subject to the permitting requirements of part 270, or

(2) Hazardous waste recycling units that are located on hazardous waste management facilities otherwise sub-

ject to the permitting requirements of part 270.

(c) Each piece of equipment to which this subpart applies shall be marked in such a manner that it can be distinguished readily from other pieces of equipment.

(d) Equipment that is in vacuum service is excluded from the requirements of § 265.1052 to § 265.1060 if it is identified as required in § 265.1064(g)(5).

[Note: The requirements of §§ 265.1052 through 265.1064 apply to equipment associated with hazardous waste recycling units previously exempt under paragraph 261.6(c)(1). Other exemptions under §§ 261.4, 262.34, and 265.1(c) are not affected by these requirements.]

§ 265.1051 Definitions.

As used in this subpart, all terms shall have the meaning given them in § 264.1031, the Act, and parts 260-266.

§ 265.1052 Standards: Pumps in light liquid service.

(a)(1) Each pump in light liquid service shall be monitored monthly to detect leaks by the methods specified in § 265.1063(b), except as provided in paragraphs (d), (e), and (f) of this section.

(2) Each pump in light liquid service shall be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.

(b)(1) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(2) If there are indications of liquids dripping from the pump seal, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 265.1059.

(2) A first attempt at repair (e.g., tightening the packing gland) shall be made no later than 5 calendar days after each leak is detected.

(d) Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of paragraph (a), *provided* the following requirements are met:

(1) Each dual mechanical system must be:

(i) Operated with the barrier flui a pressure that is at all times gre than the pump stuffing box pressu or

(ii) Equipped with a barrier fluid gassing reservoir that is connected a closed-vent system to a cont device that complies with the requi ments of § 265.1060, or

(iii) Equipped with a system th purges the barrier fluid into a haza ous waste stream with no detectab emissions to the atmosphere.

(2) The barrier fluid system mu not be a hazardous waste with orga concentrations 10 percent or great by weight.

(3) Each barrier fluid system mu be equipped with a sensor that w detect failure of the seal system, th barrier fluid system or both.

(4) Each pump must be checked b visual inspection, each calendar wee for indications of liquids drippin from the pump seals.

(5)(i) Each sensor as described i paragraph (d)(3) of this section mus be checked daily or be equipped wit an audible alarm that must be checke monthly to ensure that it is functioning properly.

(ii) The owner or operator must determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

(6)(i) If there are indications of liquids dripping from the pump seal or the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined in paragraph (d)(5)(ii) of this section, a leak is detected.

(ii) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 265.1059.

(iii) A first attempt at repair (e.g. relapping the seal) shall be made no later than 5 calendar days after each leak is detected.

(e) Any pump that is designated, as described in § 265.1064(g)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraphs (a), (c), and (d) of this section if the pump meets the following requirements:

(1) Must have no externally actuated shaft penetrating the pump housing.

(2) Must operate with no detectable emissions as indicated by an instrument reading of less than 500 ppm above background as measured by the methods specified in § 265.1063(c).

(3) Must be tested for compliance with paragraph (a)(2) of this section initially upon designation, annually, and at other times as requested by the Regional Administrator.

(f) If any pump is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a control device that complies with the requirements of § 265.1060, it is exempt from the requirements of paragraphs (a) through (e) of this section.

§ 265.1053 Standards: Compressors.

(a) Each compressor shall be equipped with a seal system that includes a barrier fluid system and that prevents leakage of total organic emissions to the atmosphere, except as provided in paragraphs (h) and (i) of this section.

(b) Each compressor seal system as required in paragraph (a) of this section shall be:

(1) Operated with the barrier fluid at a pressure that is at all times greater than the compressor stuffing box pressure, or

(2) Equipped with a barrier fluid system that is connected by a closed-vent system to a control device that complies with the requirements of § 265.1060, or

(3) Equipped with a system that purges the barrier fluid into a hazardous waste stream with no detectable emissions to atmosphere.

(c) The barrier fluid must not be a hazardous waste with organic concentrations 10 percent or greater by weight.

(d) Each barrier fluid system as described in paragraphs (a) through (c) of this section shall be equipped with a sensor that will detect failure of the seal system, barrier fluid system, or both.

(e)(1) Each sensor as required in paragraph (d) of this section shall be checked daily or shall be equipped with an audible alarm that must be checked monthly to ensure that it is functioning properly unless the compressor is located within the boundary of an unmanned plant site, in which case the sensor must be checked daily.

(2) The owner or operator shall determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system or both.

(f) If the sensor indicates failure of the seal system, the barrier fluid system, or both based on the criterion determined under paragraph (e)(2) of this section, a leak is detected.

(g)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 265.1059.

(2) A first attempt at repair (e.g., tightening the packing gland) shall be made no later than 5 calendar days after each leak is detected.

(h) A compressor is exempt from the requirements of paragraphs (a) and (b) of this section if it is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal to a control device that complies with the requirements of § 265.1060, except as provided in paragraph (i) of this section.

(i) Any compressor that is designated, as described in § 265.1064(g)(2), for no detectable emission as indicated by an instrument reading of less than 500 ppm above background is exempt from the requirements of paragraphs (a) through (h) of this section if the compressor:

(1) Is determined to be operating with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in § 265.1063(c).

(2) Is tested for compliance with paragraph (i)(1) of this section initially upon designation, annually, and at other times as requested by the Regional Administrator.

§ 265.1054 Standards: Pressure relief devices in gas/vapor service.

(a) Except during pressure releases, each pressure relief device in gas/vapor service shall be operated with no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in § 265.1063(c).

(b)(1) After each pressure release, the pressure relief device shall be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as soon as practicable, but no later than 5 calendar days after each pressure release, except as provided in § 265.1059.

(2) No later than 5 calendar days after the pressure release, the pressure relief device shall be monitored to confirm the condition of no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, as measured by the method specified in § 265.1063(c).

(c) Any pressure relief device that is equipped with a closed-vent system capable of capturing and transporting leakage from the pressure relief device to a control device as described in § 265.1060 is exempt from the requirements of paragraphs (a) and (b) of this section.

§ 265.1055 Standards: Sampling connecting systems.

(a) Each sampling connection system shall be equipped with a closed-purge system or closed-vent system.

(b) Each closed-purge system or closed-vent system as required in paragraph (a) shall:

(1) Return the purged hazardous waste stream directly to the hazardous waste management process line with no detectable emissions to atmosphere, or

(2) Collect and recycle the purged hazardous waste stream with no detectable emissions to atmosphere, or

(3) Be designed and operated to capture and transport all the purged hazardous waste stream to a control device that complies with the requirements of § 265.1060.

(c) *In situ* sampling systems exempt from the requirements paragraphs (a) and (b) of this sectio

§ 265.1056 Standards: Open-ended val or lines.

(a)(1) Each open-ended valve or li shall be equipped with a cap, blin flange, plug, or a second valve.

(2) The cap, blind flange, plug, second valve shall seal the open en all times except during operations quiring hazardous waste stream flo through the open-ended valve or lin

(b) Each open-ended valve or li equipped with a second valve shall operated in a manner such that th valve on the hazardous waste strea end is closed before the second valve closed.

(c) When a double block and blee system is being used, the bleed valv or line may remain open during oper ations that require venting the line be tween the block valves but shal comply with paragraph (a) of this sec tion at all other times.

§ 265.1057 Standards: Valves in gas/vap service or in light liquid service.

(a) Each valve in gas/vapor or ligh liquid service shall be monitored monthly to detect leaks by the methods specified in § 265.1063(b) and shal comply with paragraphs (b) throug (e) of this section, except as provided in paragraphs (f), (g), and (h) of this section' and §§ 265.1061 and 265.1062

(b) If an instrument reading 10,000 ppm or greater is measured, leak is detected.

(c)(1) Any valve for which a leak i not detected for two successive month may be monitored the first month every succeeding quarter, beginnin with the next quarter, until a leak i detected.

(2) If a leak is detected, the val shall be monitored monthly until leak is not detected for 2 successi months.

(d)(1) When a leak is detected, shall be repaired as soon as practic ble, but no later than 15 calendar da after the leak is detected, except provided in § 265.1059.

(2) A first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(e) First attempts at repair include, but are not limited to, the following best practices where practicable:

(1) Tightening of bonnet bolts.

(2) Replacement of bonnet bolts.

(3) Tightening of packing gland nuts.

(4) Injection of lubricant into lubricated packing.

(f) Any valve that is designated, as described in § 265.1064(g)(2), for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, is exempt from the requirements of paragraph (a) of this section if the valve:

(1) Has no external actuating mechanism in contact with the hazardous waste stream.

(2) Is operated with emissions less than 500 ppm above background as determined by the method specified in § 265.1063(c).

(3) Is tested for compliance with paragraph (f)(2) of this section initially upon designation, annually, and at other times as requested by the Regional Administrator.

(g) Any valve that is designated, as described in § 265.1064(h)(1), as an unsafe-to-monitor valve is exempt from the requirements of paragraph (a) of this section if:

(1) The owner or operator of the valve determines that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with paragraph (a) of this ection.

(2) The owner or operator of the alve adheres to a written plan that equires monitoring of the valve as requently as practicable during safe-o-monitor times.

(h) Any valve that is designated, as escribed in § 265.1064(h)(2), as a diffilt-to-monitor valve is exempt from e requirements of paragraph (a) of is section if:

1) The owner or operator of the lve determines that the valve cannot monitored without elevating the nitoring personnel more than 2 ters above a support surface.

(2) The hazardous waste management unit within which the valve is located was in operation before June 21, 1990.

(3) The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

§ 265.1058 Standards: Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors.

(a) Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors shall be monitored within 5 days by the method specified in § 265.1063(b) if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method.

(b) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(c)(1) When a leak is detected, it shall be repaired as soon as practicable, but not later than 15 calendar days after it is detected, except as provided in § 265.1059.

(2) The first attempt at repair shall be made no later than 5 calendar days after each leak is detected.

(d) First attempts at repair include, but are not limited to, the best practices described under § 265.1057(e).

§ 265.1059 Standards: Delay of repair.

(a) Delay of repair of equipment for which leaks have been detected will be allowed if the repair is technically infeasible without a hazardous waste management unit shutdown. In such a case, repair of this equipment shall occur before the end of the next hazardous waste management unit shutdown.

(b) Delay of repair of equipment for which leaks have been detected will be allowed for equipment that is isolated from the hazardous waste management unit and that does not continue to contain or contact hazardous waste with organic concentrations at least 10 percent by weight.

(c) Delay of repair for valves will be allowed if:

(1) The owner or operator determines that emissions of purged material resulting from immediate repair are greater than the emissions likely to result from delay of repair.

(2) When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with § 265.1060.

(d) Delay of repair for pumps will be allowed if:

(1) Repair requires the use of a dual mechanical seal system that includes a barrier fluid system.

(2) Repair is completed as soon as practicable, but not later than 6 months after the leak was detected.

(e) Delay of repair beyond a hazardous waste management unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the hazardous waste management unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next hazardous waste management unit shutdown will not be allowed unless the next hazardous waste management unit shutdown occurs sooner than 6 months after the first hazardous waste management unit shutdown.

§ 265.1060 Standards: Closed-vent systems and control devices.

Owners or operators of closed-vent systems and control devices shall comply with the provisions of § 265.1033.

§ 265.1061 Alternative standards for valves in gas/vapor service or in light liquid service: percentage of valves allowed to leak.

(a) An owner or operator subject to the requirements of § 265.1057 may elect to have all valves within a hazardous waste management unit comply with an alternative standard which allows no greater than 2 percent of the valves to leak.

(b) The following requirements shall be met if an owner or operator decides to comply with the alternative standard of allowing 2 percent of valves to leak:

(1) An owner or operator must notify the Regional Administrator that the owner or operator has elected to comply with the requirements of this section.

(2) A performance test as specified in paragraph (c) of this section shall be conducted initially upon designation, annually, and at other times requested by the Regional Administrator.

(3) If a valve leak is detected, it shall be repaired in accordance with § 265.1057 (d) and (e).

(c) Performance tests shall be conducted in the following manner:

(1) All valves subject to the requirements in § 265.1057 within the hazardous waste management unit shall be monitored within 1 week by the methods specified in § 265.1063(b).

(2) If an instrument reading of 10,000 ppm or greater is measured, a leak is detected.

(3) The leak percentage shall be determined by dividing the number of valves subject to the requirements in § 265.1057 for which leaks are detected by the total number of valves subject to the requirements in § 265.1057 within the hazardous waste management unit.

(d) If an owner or operator decides no longer to comply with this section, the owner or operator must notify the Regional Administrator in writing that the work practice standard described in § 265.1057 (a) through (e) will be followed.

§ 265.1062 Alternative standards for valves in gas/vapor service or in light liquid service: skip period leak detection and repair.

(a)(1) An owner or operator subject to the requirements of § 265.1057 may elect for all valves within a hazardous waste management unit to comply with one of the alternative work practices specified in paragraphs (b)(2) and (3) of this section.

(2) An owner or operator must notify the Regional Administrator before implementing one of the alternative work practices.

(b)(1) An owner or operator shall comply with the requirements for valves, as described in § 265.1057, except as described in paragraphs (b)(2) and (b)(3) of this section.

(2) After two consecutive quarterly eak detection periods with the percentage of valves leaking equal to or ess than 2 percent, an owner or opera or may begin to skip one of the quarerly leak detection periods for the alves subject to the requirements in 265.1057.

(3) After five consecutive quarterly eak detection periods with the perentage of valves leaking equal to or ess than 2 percent, an owner or operaor may begin to skip three of the uarterly leak detection periods for he valves subject to the requirements 1 § 265.1057.

(4) If the percentage of valves leakg is greater than 2 percent, the wner or operators hall monitor onthly in compliance with the reuirements in § 265.1057, but may gain elect to use this section after eeting the requirements of 265.1057(c)(1).

65.1063 Test methods and procedures.

a) Each owner or operator subject the provisions of this subpart shall mply with the test methods and produres requirements provided in this ction.

b) Leak detection monitoring, as reired in §§ 265.1052–265.1062, shall mply with the following requirents:

1) Monitoring shall comply with ference Method 21 in 40 CFR Part

2) The detection instrument shall et the performance criteria of Refnce Method 21.

3) The instrument shall be calibratbefore use on each day of its use by procedures specified in Reference thod 21.

) Calibration gases shall be:

) Zero air (less than 10 ppm of hycarbon in air).

i) A mixture of methane or nane and air at a concentration of roximately, but less than, 10.000 n methane or n-hexane.

) The instrument probe shall be ersed around all potential leak rfaces as close to the interface as sible as described in Reference hod 21.

) When equipment is tested for pliance with no detectable emissions, as required in §§ 265.1052(e), 265.1053(i), 265.1054, and 265.1057(f), the test shall comply with the following requirements:

(1) The requirements of paragraphs (b) (1) through (4) of this section shall apply.

(2) The background level shall be determined, as set forth in Reference Method 21.

(3) The instrument probe shall be traversed around all potential leak interfaces as close to the interface as possible as described in Reference Method 21.

(4) The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with 500 ppm for determining compliance.

(d) In accordance with the waste analysis plan required by § 265.13(b), an owner or operator of a facility must determine, for each piece of equipment, whether the equipment contains or contacts a hazardous waste with organic concentration that equals or exceeds 10 percent by weight using the following:

(1) Methods described in ASTM Methods D 2267–88, E 169–87, E 168–88, E 260–85 (incorporated by reference under § 260.11);

(2) Method 9060 or 8240 of SW-846 (incorporated by reference under § 260.11); or

(3) Application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced. Documentation of a waste determination by knowledge is required. Examples of documentation that shall be used to support a determination under this provision include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to have a total organic content less than 10 percent, or prior speciation analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.

(e) If an owner or operator determines that a piece of equipment contains or contacts a hazardous waste with organic concentrations at least 10 percent by weight the determination can be revised only after following the procedures in paragraph (d)(1) or (d)(2) of this section.

(f) When an owner or operator and the Regional Administrator do not agree on whether a piece of equipment contains or contacts a hazardous waste with organic concentrations at least 10 percent by weight, the procedures in paragraph (d)(1) or (d)(2) of this section can be used to resolve the dispute.

(g) Samples used in determining the percent organic content shall be representative of the highest total organic content hazardous waste that is expected to be contained in or contact the equipment.

(h) To determine if pumps or valves are in light liquid service, the vapor pressures of constituents may be obtained from standard reference texts or may be determined by ASTM D-2879-86 (incorporated by reference under § 260.11).

(i) Performance tests to determine if a control device achieves 95 weight percent organic emission reduction shall comply with the procedures of § 265.1034 (c)(1) through (c)(4).

§ 265.1064 Recordkeeping requirements.

(a)(1) Each owner or operator subject to the provisions of this subpart shall comply with the recordkeeping requirements of this section.

(2) An owner or operator of more than one hazardous waste management unit subject to the provisions of this subpart may comply with the recordkeeping requirements for these hazardous waste management units in one recordkeeping system if the system identifies each record by each hazardous waste management unit.

(b) Owners and operators must record the following information in the facility operating record:

(1) For each piece of equipment to which subpart BB of part 265 applies:

(i) Equipment identification number and hazardous waste management unit identification.

(ii) Approximate locations within the facility (e.g., identify the hazardous waste management unit on a faci ty plot plan).

(iii) Type of equipment (e.g., a pum or pipeline valve).

(iv) Percent-by-weight total organi in the hazardous waste stream at th equipment.

(v) Hazardous waste state at th equipment (e.g., gas/vapor or liquid).

(vi) Method of compliance with th standard (e.g., "monthly leak dete tion and repair" or "equipped wit dual mechanical seals").

(2) For facilities that comply wit the provisions of § 265.1033(a)(2), a implementation schedule as specifie in § 265.1033(a)(2).

(3) Where an owner or operato chooses to use test data to demon strate the organic removal efficienc or total organic compound concentr tion achieved by the control device, performance test plan as specified i § 265.1035(b)(3).

(4) Documentation of complianc with § 265.1060, including the detaile design documentation or performanc test results specified i § 265.1035(b)(4).

(c) When each leak is detected a specified in §§ 265.1052, 265.1053 265.1057, and 265.1058, the followin requirements apply:

(1) A weatherproof and readily visible identification, marked with the equipment identification number, the date evidence of a potential leak was found in accordance with § 265.1058(a), and the date the leak was detected, shall be attached to the leaking equipment.

(2) The identification on equipment, except on a valve, may be removed after it has been repaired.

(3) The identification on a valve may be removed after it has been monitored for 2 successive months as specified in § 265.1057(c) and no leak has been detected during those 2 months.

(d) When each leak is detected as specified in §§ 265.1052, 265.1053, 265.1057, and 265.1058, the following information shall be recorded in an inspection log and shall be kept in the facility operating record:

(1) The instrument and operator identification numbers and the equipment identification number.

(2) The date evidence of a potential leak was found in accordance with § 265.1058(a).

(3) The date the leak was detected and the dates of each attempt to repair the leak.

(4) Repair methods applied in each attempt to repair the leak.

(5) "Above 10,000" if the maximum instrument reading measured by the methods specified in § 265.1063(b) after each repair attempt is equal to or greater than 10,000 ppm.

(6) "Repair delayed" and the reason for the delay if a leak is not repaired within 15 calendar days after discovery of the leak.

(7) Documentation supporting the delay of repair of a valve in compliance with § 265.1059(c).

(8) The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a hazardous waste management unit shutdown.

(9) The expected date of successful repair of the leak if a leak is not repaired within 15 calendar days.

(10) The date of successful repair of the leak.

(e) Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required to comply with the provisions of § 265.1060 shall be recorded and kept up-to-date in the facility operating record as specified in § 265.1035(c). Design documentation is specified in § 265.1035 (c)(1) and (c)(2) and monitoring, operating, and inspection information in § 265.1035 (c)(3)-(c)(8).

(f) For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, monitoring and inspection information indicating proper operation and maintenance of the control device must be recorded in the facility operating record.

(g) The following information pertaining to all equipment subject to the requirements in §§ 265.1052 through 265.1060 shall be recorded in a log that is kept in the facility operating record:

(1) A list of identification numbers for equipment (except welded fittings) subject to the requirements of this subpart.

(2)(i) A list of identification numbers for equipment that the owner or operator elects to designate for no detectable emissions, as indicated by an instrument reading of less than 500 ppm above background, under the provisions of §§ 265.1052(e), 265.1053(i), and 265.1057(f).

(ii) The designation of this equipment as subject to the requirements of §§ 265.1052(e), 265.1053(i), or 265.1057(f) shall be signed by the owner or operator.

(3) A list of equipment identification numbers for pressure relief devices required to comply with § 265.1054(a).

(4)(i) The dates of each compliance test required in §§ 265.1052(e), 265.1053(i), 265.1054, and 265.1057(f).

(ii) The background level measured during each compliance test.

(iii) The maximum instrument reading measured at the equipment during each compliance test.

(5) A list of identification numbers for equipment in vacuum service.

(h) The following information pertaining to all valves subject to the requirements of § 265.1057 (g) and (h) shall be recorded in a log that is kept in the facility operating record:

(1) A list of identification numbers for valves that are designated as unsafe to monitor, an explanation for each valve stating why the valve is unsafe to monitor, and the plan for monitoring each valve.

(2) A list of identification numbers for valves that are designated as difficult to monitor, an explanation for each valve stating why the valve is difficult to monitor, and the planned schedule for monitoring each valve.

(i) The following information shall be recorded in the facility operating record for valves complying with § 265.1062:

(1) A schedule of monitoring.

(2) The percent of valves found leaking during each monitoring period.

(j) The following information shall be recorded in a log that is kept in the facility operating record:

(1) Criteria required in §§ 265.1052(d)(5)(ii) and 265.1053(e)(2) and an explanation of the criteria.

(2) Any changes to these criteria and the reasons for the changes.

(k) The following information shall be recorded in a log that is kept in the facility operating record for use in determining exemptions as provided in the applicability section of this subpart and other specific subparts:

(1) An analysis determining the design capacity of the hazardous waste management unit.

(2) A statement listing the hazardous waste influent to and effluent from each hazardous waste management unit subject to the requirements in §§ 265.1052 through 265.1060 and an analysis determining whether these hazardous wastes are heavy liquids.

(3) An up-to-date analysis and the supporting information and data used to determine whether or not equipment is subject to the requirements in §§ 265.1052 through 265.1060. The record shall include supporting documentation as required by § 265.1063(d)(3) when application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used. If the owner or operator takes any action (e.g., changing the process that produced the waste) that could result in an increase in the total organic content of the waste contained in or contacted by equipment determined not to be subject to the requirements in §§ 265.1052 through 265.1060, then a new determination is required.

(l) Records of the equipment leak information required by paragraph (d) of this section and the operating information required by paragraph (e) of this section need be kept only 3 years.

(m) The owner or operator of any facility that is subject to this subpart and to regulations at 40 CFR part 60, subpart VV, or 40 CFR part 61, subpart V, may elect to determine compliance with this subpart by documentation either pursuant to § 265.1064 of this subpart, or pursuant to those provisions of 40 CFR part 60 or 61, to the extent that the documentation under the regulation at 40 CFR part 60 or part 61 duplicates the documentation required under this subpart. The documentation under the regulation at 40 CFR part 60 or part 61 shall be kept
with or made readily availabl
the facility operating record.

(Approved by the Office of Man
and Budget under control numbe
0195)

§§ 265.1065—265.1079 [Reserved]

APPENDIX I—RECORDKEEPIN INSTRUCTIONS

The recordkeeping provisions of
specify that an owner or operator mu
a written operating record at his
This appendix provides additional
tions for keeping *portions* of the op
record. See § 265.73(b) for additional
keeping requirements.

The following information must be
ed, as it becomes available, and main
in the operating record until closure
facility in the following manner:

Records of each hazardous waste re
treated, stored, or disposed of at the
which include the following:

(1) A description by its common nam
the EPA Hazardous Waste Number(s
Part 261 of this chapter which apply
waste. The waste description also mu
clude the waste's physical form, i.e.,
sludge, solid, or contained gas. If the
is not listed in Part 261, Subpart D,
chapter, the description also must in
the process that produced it (for exa
solid filter cake from production of
EPA Hazardous Waste Number W051).

Each hazardous waste listed in Par
Subpart D, of this chapter, and each
ardous waste characteristic defined in
261, Subpart C, of this chapter, has a
digit EPA Hazardous Waste Numbe
signed to it. This number must be use
recordkeeping and reporting purp
Where a hazardous waste contains
than one listed hazardous waste, or
more than one hazardous waste charac
tic applies to the waste, the waste de
tion must include all applicable EPA
ardous Waste Numbers.

(2) The estimated or manifest-repo
weight, or volume and density, where
cable, in one of the units of measure
fied in Table 1; and

TABLE 1

Unit of measure	Symbol[1]	De
Pounds	P	
Short tons (2000 lbs)	T	
Gallons (U.S.)	G	P/G
Cubic yards	Y	T/Y
Kilograms	K	
Tonnes (1000 kg)	M	

Table 1—Continued

Unit of measure	Symbol[1]	Density
Liters	L	K/L
Cubic meters	C	M/C

[1] Single digit symbols are used here for data processing purposes.

(3) The method(s) (by handling code(s) as specified in Table 2) and date(s) of treatment, storage, or disposal.

Table 2—Handling Codes for Treatment, Storage, amd Disposal Methods

Enter the handling code(s) listed below that most closely represents the technique(s) used at the facility to treat, store, or dispose of each quantity of hazardous waste received.

1. Storage

S01 Container (barrel, drum, etc.)
S02 Tank
S03 Waste pile
S04 Surface impoundment
S05 Other (specify)

2. Treatment

(a) Thermal Treatment

T06 Liquid injection incinerator
T07 Rotary kiln incinerator
T08 Fluidized bed incinerator
T09 Multiple hearth incinerator
T10 Infrared furnace incinerator
T11 Molten salt destructor
T12 Pyrolysis
T13 Wet air oxidation
T14 Calcination
T15 Microwave discharge
T16 Cement kiln
T17 Lime kiln
T18 Other (specify)

(b) Chemical Treatment

T19 Absorption mound
T20 Absorption field
T21 Chemical fixation
T22 Chemical oxidation
T23 Chemical precipitation
T24 Chemical reduction
T25 Chlorination
T26 Chlorinolysis
T27 Cyanide destruction
T28 Degradation
T29 Detoxification
T30 Ion exchange
T31 Neutralization
T32 Ozonation
T33 Photolysis
T34 Other (specify)

(c) Physical Treatment:

(1) Separation of components

T35 Centrifugation
T36 Clarification
T37 Coagulation
T38 Decanting
T39 Encapsulation
T40 Filtration
T41 Flocculation
T42 Flotation
T43 Foaming
T44 Sedimentation
T45 Thickening
T46 Ultrafiltration
T47 Other (specify)

(2) Removal of Specific Components

T48 Absorption-molecular sieve
T49 Activated carbon
T50 Blending
T51 Catalysis
T52 Crystallization
T53 Dialysis
T54 Distillation
T55 Electrodialysis
T56 Electrolysis
T57 Evaporation
T58 High gradient magnetic separation
T59 Leaching
T60 Liquid ion exchange
T61 Liquid-liquid extraction
T62 Reverse osmosis
T63 Solvent recovery
T64 Stripping
T65 Sand filter
T66 Other (specify)

(d) Biological Treatment

T67 Activated sludge
T68 Aerobic lagoon
T69 Aerobic tank
T70 Anaerobic lagoon
T71 Composting
T72 Septic tank
T73 Spray irrigation
T74 Thickening filter
T75 Tricking filter
T76 Waste stabilization pond
T77 Other (specify)
T78-79 [Reserved]

3. Disposal

D80 Underground injection
D81 Landfill
D82 Land treatment
D83 Ocean disposal
D84 Surface impoundment (to be closed as a landfill)
D85 Other (specify)

APPENDIX II—[RESERVED]

APPENDIX III—EPA INTERIM PRIMARY DRINKING WATER STANDARDS

Parameter	Maximum level (mg/l)
Arsenic	0.05
Barium	1.0
Cadmium	0.01
Chromium	0.05
Fluoride	1.4–2.4
Lead	0.05
Mercury	0.002
Nitrate (as N)	10
Selenium	0.01
Silver	0.05
Endrin	0.0002
Lindane	0.004
Methoxychlor	0.1
Toxaphene	0.005
2,4-D	0.1
2,4,5-TP Silver	0.01
Radium	5 pCi/1
Gross Alpha	15 pCi/1
Gross Beta	4 millirem/yr
Turbidity	1/TU
Coliform Bacteria	1/100 ml

[*Comment:* Turbidity is applicable only to surface water supplies.]

APPENDIX IV—TESTS FOR SIGNIFICANCE

As required in § 265.93(b) the owner or operator must use the Student's t-test to determine statistically significant changes in the concentration or value of an indicator parameter in periodic ground-water samples when compared to the initial background concentration or value of that indicator parameter. The comparison must consider individually each of the wells in the monitoring system. For three of the indicator parameters (specific conductance, total organic carbon, and total organic halogen) a single-tailed Student's t-test must be used to test at the 0.01 level of significance for significant increases over background. The difference test for pH must be a two-tailed Student's t-test at the overall 0.01 level of significance.

The student's t-test involves calculation of the value of a t-statistic for each comparison of the mean (average) concentration or value (based on a minimum of four replicate measurements) of an indicator parameter with its initial background concentration or value. The calculated value of the t-statistic must then be compared to the value of the t-statistic found in a table for t-test of significance at the specified level of significance. A calculated value of t which exceeds the value of t found in the table indicates a statistically significant change in the concentration or value of the indicator parameter.

Formulae for calculation of the t-statistic and tables for t-test of significance can be found in most introductory statistics texts.

APPENDIX V—EXAMPLES OF POTENTIALLY INCOMPATIBLE WASTE

Many hazardous wastes, when mixed with other waste or materials at a hazardou waste facility, can produce effects which are harmful to human health and the environment, such as (1) heat or pressure, (2) fire or explosion, (3) violent reaction, (4) toxic dusts, mists, fumes, or gases, or (5) flammable fumes or gases.

Below are examples of potentially incompatible wastes, waste components, and materials, along with the harmful consequences which result from mixing materials in one group with materials in another group. The list is intended as a guide to owners or operators of treatment, storage, and disposal facilities, and to enforcement and permit granting officials, to indicate the need for special precautions when managing these potentially incompatible waste materials or components.

This list is not intended to be exhaustive. An owner or operator must, as the regulations require, adequately analyze his wastes so that he can avoid creating uncontrolled substances or reactions of the type listed below, whether they are listed below or not.

It is possible for potentially incompatible wastes to be mixed in a way that precludes a reaction (e.g., adding acid to water rather than water to acid) or that neutralizes them (e.g., a strong acid mixed with a strong base), or that controls substances produced (e.g., by generating flammable gases in a closed tank equipped so that ignition cannot occur, and burning the gases in an incinerator).

In the lists below, the mixing of a Group A material with a Group B material may have the potential consequence as noted.

Group 1–A	Group 1-B
Acetylene sludge	Acid sludge
Akaline caustic liquids	Acid and water
Alkaline cleaner	Battery acid
Alkaline corrosive liquids	Chemical cleaners
Alkaline corrosive battery fluid	Electrolyte, acid
Caustic wastewater	Etching acid liquid or solvent
Lime sludge and other corrosive alkalies	
Lime wastewater	Pickling liquor and other corrosive acids
Lime and water	Spent acid
Spent caustic	Spent mixed acid

Group 1-A	Group 1-B
	Spent sulfuric acid

Potential consequences: Heat generation; violent reaction.

Group 2-A	Group 2-B
Aluminum Beryllium Calcium Lithium Magnesium Potassium Sodium Zinc powder Other reactive metals and metal hydrides	Any waste in Group 1-A or 1-B

Potential consequences: Fire or explosion; generation of flammable hydrogen gas.

Group 3-A	Group 3-B
Alcohols Water	Any concentrated waste in Groups 1-A or 1-B Calcium Lithium Metal hydrides Potassium SO_2Cl_2, $SOCl_2$, PCl_3, CH_3SiCl_3 Other water-reactive waste

Potential consequences: Fire, explosion, or eat generation; generation of flammable or oxic gases.

Group 4-A	Group 4-B
lcohols ldehydes alogenated hydrocarbons itrated hydrocarbons nsaturated hydrocarbons ther reactive organic compounds and solvents	Concentrated Group 1-A or 1-B wastes Group 2-A wastes

Potential consequences: Fire, explosion, or iolent reaction.

Group 5-A	Group 5-B
ent cyanide and sulfide solutions	Group 1-B wastes

Potential consequences: Generation of xic hydrogen cyanide or hydrogen sulfide as.

Group 6-A	Group 6-B
Chlorates Chlorine Chlorites Chromic acid Hyphochlorites Nitrates Nitric acid, fuming Perchlorates Permanganates Peroxides Other strong oxidizers	Acetic acid and other organic acids Concentrated mineral acides Group 2-A wastes Group 4-A wastes Other flammable and combustible wastes

Potential consequences: Fire, explosion, or violent reaction.

Source: "Law, Regulations, and Guidelines for Handling of Hazardous Waste." California Department of Health, February 1975.

PART 266—STANDARDS FOR THE MANAGEMENT OF SPECIFIC HAZARDOUS WASTES AND SPECIFIC TYPES OF HAZARDOUS WASTE MANAGEMENT FACILITIES

Subparts A—B [Reserved]

Subpart C—Recyclable Materials Used in a Manner Constituting Disposal

Sec.
266.20 Applicability.
266.21 Standards applicable to generators and transporters of materials used in a manner that constitute disposal.
266.22 Standards applicable to storers of materials that are to be used in a manner that constitutes disposal who are not the ultimate users.
266.23 Standards applicable to users of materials that are used in a manner that constitutes disposal.

Subpart D—Hazardous Waste Burned for Energy Recovery

266.30 Applicability.
266.31 Prohibitions.
266.32 Standards applicable to generators of hazardous waste fuel.
266.33 Standards applicable to transporters of hazardous waste fuel.
266.34 Standards applicable to marketers of hazardous waste fuel.
266.35 Standards applicable to burners of hazardous waste fuel.

Sec.

Subpart E—Used Oil Burned for Energy Recovery

266.40 Applicability.
266.41 Prohibitions.
266.42 Standards applicable to generators of used oil burned for energy recovery.
266.43 Standards applicable to marketers of used oil burned for energy recovery.
266.44 Standards applicable to burners of used oil burned for energy recovery.

Subpart F—Recyclable Materials Utilized for Precious Metal Recovery

266.70 Applicability and requirements.

Subpart G—Spent Lead-Acid Batteries Being Reclaimed

266.80 Applicability and requirements.

AUTHORITY: Secs. 1006, 2002(a), 3004, and 3014 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6905, 6912(a), 6924, and 6934).

SOURCE: 50 FR 666, Jan. 4, 1985, unless otherwise noted.

Subparts A—B [Reserved]

Subpart C—Recyclable Materials Used in a Manner Constituting Disposal

§ 266.20 Applicability.

(a) The regulations of this subpart apply to recyclable materials that are applied to or placed on the land:

(1) Without mixing with any other substance(s); or

(2) After mixing or conmbination with any other substance(s). These materials will be referred to throughout this subpart as "materials used in a manner that constitutes disposal."

(b) Products produced for the general public's use that are used in a manner that constitutes disposal and that contain recyclable materials are not presently subject to regulation if the recyclable materials have undergone a chemical reaction in the course of producing the products so as to become inseparable by physical means and if such products meet the applicable treatment standards in Subpart D of Part 268 (or applicable prohibition levels in § 268.32 or RCRA section 3004(d), where no treatment standards have been established) for each clable material (*i.e.*, hazardous w that they contain. Commercial fer ers that are produced for the ger public's use that contain recycl materials also are not presently ject to regulation provided they these same treatment standards prohibition levels for each recycl material that they contain. Howe zinc-containing fertilizers using ardous waste K061 that are produ for the general public's use are presently subject to regulation.

[50 FR 666, Jan. 4, 1985, as amended a FR 21307, June 5, 1987; 54 FR 36970, Sep 1989]

§ 266.21 Standards applicable to gene tors and transporters of materials u in a manner that constitute disposal

Generators and transporters of m terials that are used in a manner th constitutes disposal are subject to t applicable requirements of Parts 2 and 263 of this chapter, and the noti cation requirement under section 30 of RCRA.

§ 266.22 Standards applicable to storers materials that are to be used in manner that constitutes disposal wh are not the ultimate users.

Owners or operators of facilities tha store recyclable materials that are t be used in a manner that constitute disposal, but who are not the ultimat users of the materials, are regulated under all applicable provisions of Subparts A through L of Parts 264 and 265 and Parts 270 and 124 of this chapter and the notification requirement under section 3010 of RCRA.

§ 266.23 Standards applicable to users of materials that are used in a manner that constitutes disposal.

(a) Owners or operators of facilities that use recyclable materials in a manner that constitutes disposal are regulated under all applicable provisions of Subparts A through N of Parts 264 and 265 and Parts 270 and 124 of this chapter and the notification requirement under section 3010 of RCRA. (These requirements do not apply to products which contain these recyclable materials under the provisions of § 266.20(b) of this chapter.)

(b) The use of waste or used oil or other material, which is contaminated with dioxin or any other hazardous waste (other than a waste identified solely on the basis of ignitability), for dust suppression or road treatment is prohibited.

[50 FR 666, Jan. 4, 1985, as amended at 50 FR 28750, July 15, 1985]

Subpart D—Hazardous Waste Burned for Energy Recovery

SOURCE: 50 FR 49204, Nov. 29, 1985, unless otherwise noted.

§ 266.30 Applicability.

(a) The regulations of this subpart apply to hazardous wastes that are burned for energy recovery in any boiler or industrial furnace that is not regulated under Subpart O of Part 264 or 265 of this chapter, except as provided by paragraph (b) of this section. Such hazardous wastes burned for energy recovery are termed "hazardous waste fuel". Fuel produced from hazardous waste by processing, blending, or other treatment is also hazardous waste fuel. (These regulations do not apply, however, to gas recovered from hazardous waste management activities when such gas is burned for energy recovery.)

(b) The following hazardous wastes are not subject to regulation under this subpart:

(1) Used oil burned for energy recovery that is also a hazardous waste solely because it exhibits a characteristic of hazardous waste identified in Subpart C of Part 261 of this chapter. Such used oil is subject to regulation under Subpart E of Part 266 rather than this subpart; and

(2) Hazardous wastes that are exempt from regulation under §§ 261.4 and 261.6(a) (3) (v) through (ix) of this chapter, and hazardous wastes that are subject to the special requirements for small quantity generators under § 261.5 of this chapter.

§ 266.31 Prohibitions.

(a) A person may market hazardous waste fuel only:

(1) To persons who have notified EPA of their hazardous waste fuel activities and have a U.S. EPA Identification Number; and

(2) If the fuel is burned, to persons who burn the fuel in boilers or industrial furnaces identified in paragaraph (b) of this section.

(b) Hazardous waste fuel may be burned for energy recovery in only the following devices;

(1) Industrial furnaces identified in § 260.10 of this chapter;

(2) Boilers, as defined in § 260.10 of this chapter, that are identified as follows:

(i) Industrial boilers located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes; or

(ii) Utility boilers used to produce electric power, steam, or heated or cooled air or other gases or fluids for sale.

(c) No fuel which contains any hazardous waste may be burned in any cement kiln which is located within the boundaries of any incorporated municipality with a population greater than 500,000 (based on the most recent census statistics) unless such kiln fully complies with regulations under this chapter that are applicable to incinerators.

[50 FR 49204, Nov. 29, 1985, as amended at 52 FR 11821, Apr. 13, 1987]

§ 266.32 Standards applicable to generators of hazardous waste fuel.

(a) Generators of hazardous waste that is used as a fuel or used to produce a fuel are subject to Part 262 of this chapter.

(b) Generators who market hazardous waste fuel to a burner also are subject to § 266.34.

(c) Generators who are burners also are subject to § 266.35.

§ 266.33 Standards applicable to transporters of hazardous waste fuel.

Transporters of hazardous waste fuel (and hazardous waste that is used to produce a fuel) are subject to Part 263 of this chapter.

§ 266.34 Standards applicable to marketers of hazardous waste fuel.

Persons who market hazardous waste fuel are termed "marketers", and are subject to the following requirements. Marketers include generators who market hazardous waste fuel directly to a burner, persons who receive hazardous waste from generators and produce, process, or blend hazardous waste fuel from these hazardous wastes, and persons who distribute but do not process or blend hazardous waste fuel.

(a) *Prohibitions.* The prohibitions under § 266.31(a);

(b) *Notification.* Notification of hazardous waste fuel activities. Even if a marketer has previously notified EPA of his hazardous waste management activities and obtained a U.S. EPA Identification Number, he must renotify to identify his hazardous waste fuel activities.

(c) *Storage.* The applicable provisions of § 262.34, and Subparts A through L of Part 264, Subparts A through L of Part 265, and Part 270 of this chapter;

(d) *Off-site shipment.* The standards for generators in Part 262 of this chapter when a marketer initiates a shipment of hazardous waste fuel;

(e) *Required notices.* (1) Before a marketer initiates the first shipment of hazardous waste fuel to a burner or another marketer, he must obtain a one-time written and signed notice from the burner or marketer certifying that:

(i) The burner or marketer has notified EPA and identified his waste-as-fuel activities; and

(ii) If the recipient is a burner, the burner will burn the hazardous waste fuel only in an industrial furnace or boiler identified in § 266.31(b).

(2) Before a marketer accepts the first shipment of hazardous waste fuel from another marketer, he must provide the other marketer with a one-time written and signed certification that he has notified EPA under section 3010 of RCRA and identified his hazardous waste fuel activities; and

(f) *Recordkeeping.* In addition to the applicable recordkeeping requirements of Parts 262, 264, and 265 of this chapter, a marketer must keep a copy of each certification notice he receives or sends for three years from the date he last engages in a hazardous waste fuel marketing transaction with the person who sends or receives the certification notice.

(The notification requirements contained in paragraph (b) of this section were approved by the Office of Management and Budget under control number 2050-0028. The storage requirements contained in paragraph (c) of this section were approved by the Office of Management and Budget under control number 2050-0009. The manifest and invoice requirements contained in paragraph (d) of this section were approved by the Office of Management and Budget under control numbers 2050-0039 and 2050-0047, respectively. The certification requirements contained in paragraph (e) were approved by the Office of Management and Budget under control number 2050-0047. The recordkeeping requirements contained in paragraph (f) were approved by the Office of Management and Budget under control number 2050-0047.)

[50 FR 49204, Nov. 29, 1985, as amended at 52 FR 11821, Apr. 13, 1987]

§ 266.35 Standards applicable to burners of hazardous waste fuel.

Owners and operators of industrial furnaces and boilers identified in § 266.31(b) that burn hazardous waste fuel are "burners" and are subject to the following requirements:

(a) *Prohibitions.* The prohibitions under § 266.31(b);

(b) *Notification.* Notification of hazardous waste fuel activities. Even if a burner has previously notified EPA of his hazardous waste management activities and obtained a U.S. EPA Identification Number, he must renotify to identify his hazardous waste fuel activities.

(c) *Storage.* (1) For short term accumulation by generators who burn their hazardous waste fuel on site, the applicable provisions of § 262.34 of this chapter;

(2) For existing storage facilities, the applicable provisions of Subparts A through L of Part 265, and Parts 270 and 124 of this chapter; and

(3) For new storage facilities, the applicable provisions of Subparts A through L of Part 264, and Parts 270 and 124 of this chapter;

(d) *Required notices.* Before a burner accepts the first shipment of hazardous waste fuel from a marketer, he must provide the marketer a one-time written and signed notice certifying that:

(1) He has notified EPA and identified his waste-as-fuel activities; and

(2) He will burn the fuel only in a boiler or furnace identified in § 266.31(b).

(e) *Recordkeeping.* In addition to the applicable recordkeeping requirements of Parts 264 and 265 of this chapter, a burner must keep a copy of each certification notice that he sends to a marketer for three years from the date he last receives hazardous waste fuel from that marketer.

(The notification requirements contained in paragraph (b) of this section were approved by the Office of Management and Budget under control number 2050-0028. The storage requirements contained in paragraph (c) of this section were approved by the Office of Management and Budget under control number 2050-0009. The certification requirements contained in paragraph (d) of this section were approved by the Office of Management and Budget under control number 2050-0047. The recordkeeping requirements contained in paragraph (e) of this section were approved by the Office of Management and Budget under control number 2050-0047.)

[50 FR 49204, Nov. 29, 1985, as amended at 52 FR 11821, Apr. 13, 1987]

Subpart E—Used Oil Burned for Energy Recovery

Source: 50 FR 49205, Nov. 29, 1985, unless therwise noted.

266.40 Applicability.

(a) The regulations of this subpart pply to used oil that is burned for nergy recovery in any boiler or indus- rial furnace that is not regulated nder Subpart O of Part 264 or 265 of his chapter, except as provided by aragraphs (c) and (e) of this section. uch used oil is termed "used oil fuel". sed oil fuel includes any fuel pro- uced from used oil by processing, ending, or other treatment.

(b) "Used oil" means any oil that has een refined from crude oil, used, and, a result of such use, is contaminat- by physical or chemical impurities.

(c) Except as provided by paragraph (d) of this section, used oil that is mixed with hazardous waste and burned for energy recovery is subject to regulation as hazardous waste fuel under Subpart D of Part 266. Used oil containing more than 1000 ppm of total halogens is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste listed in Subpart D of Part 261 of this chapter. Persons may rebut this presumption by demonstrating that the used oil does not contain hazardous waste (for example, by showing that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in Appendix VIII of Part 261 of this chapter).

(d) Used oil burned for energy recovery is subject to regulation under this subpart rather than as hazardous waste fuel under Subpart D of this part if it is a hazardous waste solely because it:

(1) Exhibits a characteristic of hazardous waste identified in Subpart C of Part 261 of this chapter, provided that it is not mixed with a hazardous waste; or

(2) Contains hazardous waste generated only by a person subject to the special requirements for small quantity generators under § 261.5 of this chapter.

(e) Except as provided by paragraph (c) of this section, used oil burned for energy recovery, and any fuel produced from used oil by processing, blending, or other treatment, is subject to regulation under this subpart unless it is shown not to exceed any of the allowable levels of the constituents and properties in the specification shown in the following table. Used oil fuel that meets the specification is subject only to the analysis and recordkeeping requirements under § 266.43(b) (1) and (6). Used oil fuel that exceeds any specification level is termed "off-specification used oil fuel".

USED OIL EXCEEDING ANY SPECIFICATION LEVEL IS SUBJECT TO THIS SUBPART WHEN BURNED FOR ENERGY RECOVERY [a]

Constituent/property	Allowable level
Arsenic	5 ppm maximum.
Cadmium	2 ppm maximum.
Chromium	10 ppm maximum.
Lead	100 ppm maximum.
Flash Point	100 °F minimum.
Total Halogens	4,000 ppm maximum.[b]

[a] The specification does not apply to used oil fuel mixed with a hazardous waste other than small quantity generator hazardous waste.

[b] Used oil containing more than 1,000 ppm total halogens is presumed to be a hazardous waste under the rebuttable presumption provided under § 266.40(c). Such used oil is subject to Subpart D of this part rather than this subpart when burned for energy recovery unless the presumption of mixing can be successfully rebutted.

§ 266.41 Prohibitions.

(a) A person may market off-specification used oil for energy recovery only:

(1) To burners or other marketers who have notified EPA of their used oil management activities stating the location and general description of such activities, and who have an EPA identification number; and

(2) To burners who burn the used oil in an industrial furnace or boiler identified in paragraph (b) of this section.

(b) Off-specification used oil may be burned for energy recovery in only the following devices:

(1) Industrial furnaces identified in § 260.10 of this chapter; or

(2) Boilers, as defined in § 260.10 of this chapter, that are identified as follows:

(i) Industrial boilers located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of products, by mechanical or chemical processes;

(ii) Utility boilers used to produce electric power, steam, or heated or cooled air or other gases or fluids for sale; or

(iii) Used oil-fired space heaters provided that:

(A) The heater burns only used oil that the owner or operator generates or used oil received from do-it-yourself oil changers who generate used oil as household waste;

(B) The heater is designed to have a maximum capacity of not more than 0.5 million Btu per hour; and

(C) The combustion gases from the heater are vented to the ambient air.

§ 266.42 Standards applicable to generators of used oil burned for energy recovery.

(a) Except as provided in paragraphs (b) and (c) of this section, generators of used oil are not subject to this subpart.

(b) Generators who market used oil directly to a burner are subject to § 266.43.

(c) Generators who burn used oil are subject to § 266.44.

§ 266.43 Standards applicable to marketers of used oil burned for energy recovery.

(a) Persons who market used oil fuel are termed "marketers". Except as provided below, marketers include generators who market used oil fuel directly to a burner, persons who receive used oil from generators and produce, process, or blend used oil fuel from these used oils (including persons sending blended or processed used oil to brokers or other intermediaries), and persons who distribute but do not process or blend used oil fuel. The following persons are not marketers subject to this subpart:

(1) Used oil generators, and collectors who transport used oil received only from generators, unless the generator or collector markets the used oil directly to a person who burns it for energy recovery. However, persons who burn some used oil fuel for purposes of processing or other treatment to produce used oil fuel for marketing are considered to be burning incidentally to processing. Thus, generators and collectors who market to such incidental burners are not marketers subject to this subpart;

(2) Persons who market only used oil fuel that meets the specification under § 266.40(e) and who are not the first person to claim the oil meets the specification (i.e., marketers who do not receive used oil from generators or initial transporters and marketers who

neither receive nor market off-specification used oil fuel).

(b) Marketers are subject to the following requirements:

(1) *Analysis of used oil fuel.* Used oil fuel is subject to regulation under this subpart unless the marketer obtains analyses or other information documenting that the used oil fuel meets the specification provided under § 266.40(e).

(2) *Prohibitions.* The prohibitions under § 266.41(a);

(3) *Notification.* Notification to EPA stating the location and general description of used oil management activities. Even if a marketer has previously notified EPA of his hazardous waste management activities under section 3010 of RCRA and obtained a U.S. EPA Identification Number, he must renotify to identify his used oil management activities.

(4) *Invoice system.* When a marketer initiates a shipment of off-specification used oil, he must prepare and send the receiving facility an invoice containing the following information:

(i) An invoice number;

(ii) His own EPA identification number and the EPA identification number of the receiving facility;

(iii) The names and addresses of the shipping and receiving facilities;

(iv) The quantity of off-specification used oil to be delivered;

(v) The date(s) of shipment or delivery; and

(vi) The following statement: "This used oil is subject to EPA regulation under 40 CFR Part 266";

NOTE: Used oil that meets the definition of ombustible liquid (flash point below 200 °F ut at or greater than 100 °F) or flammable iquid (flash point below 100 °F) is subject o Department of Transportation Hazardus Materials Regulations at 49 CFR Parts 00 through 177.

(5) *Required notices.* (i) Before a arketer initiates the first shipment f off-specification used oil to a burner r other marketer, he must obtain a ne-time written and signed notice rom the burner or marketer certifyg that:

(A) The burner or marketer has nofied EPA stating the location and eneral description of his used oil anagement activities; and

(B) If the recipient is a burner, the burner will burn the off-specification used oil only in an industrial furnace or boiler identified in § 266.41(b); and

(ii) Before a marketer accepts the first shipment of off-specification used oil from another marketer subject to the requirements of this section, he must provide the marketer with a one-time written and signed notice certifying that he has notified EPA of his used oil management activities; and

(6) *Recordkeeping*—(i) *Used oil fuel that meets the specification.* A marketer who first claims under paragraph (b)(1) of this section that used oil fuel meets the specification must keep copies of analysis (or other information used to make the determination) of used oil for three years. Such marketers must also record in an operating log and keep for three years the following information on each shipment of used oil fuel that meets the specification. Such used oil fuel is not subject to further regulation, unless it is subsequently mixed with hazardous waste or unless it is mixed with used oil so that it no longer meets the specification.

(A) The name and address of the facility receiving the shipment;

(B) The quantity of used oil fuel delivered;

(C) The date of shipment or delivery; and

(D) A cross-reference to the record of used oil analysis (or other information used to make the determination that the oil meets the specification) required under paragraph (b)(6)(i) of this section.

(ii) *Off-specification used oil fuel.* A marketer who receives or initiates an invoice under the requirements of this section must keep a copy of each invoice for three years from the date the invoice is received or prepared. In addition, a marketer must keep a copy of each certification notice that he receives or sends for three years from the date he last engages in an off-specification used oil fuel marketing transaction with the person who sends or receives the certification notice.

(The analysis requirements contained in paragraph (b)(1) of this section were approved by OMB under control number 2050-

0047. The notification requirements contained in paragraph (b)(3) of this section were approved by OMB under control number 2050-0028. The invoice requirements contained in paragraph (b)(4) of this section were approved by OMB under control number 2050-0047. The certification requirements contained in paragraph (b)(5) of this section were approved by OMB under control number 2050-0047. The recordkeeping requirements contained in paragraph (b)(6) of this section were approved by OMB under control number 2050-0047.)

[50 FR 49205, Nov. 29, 1985, as amended at 52 FR 11822, Apr. 13, 1987]

§ 266.44 Standards applicable to burners of used oil burned for energy recovery.

Owners and operators of facilities that burn used oil fuel are "burners" and are subject to the following requirements:

(a) *Prohibition.* The prohibition under § 266.41(b);

(b) *Notification.* Burners of off-specification used oil fuel, and burners of used oil fuel who are the first to claim that the oil meets the specification provided under § 266.40(e), except burners who burn specification oil that they generate, must notify EPA stating the location and general description of used oil management activities. Burners of used oil fuel that meets the specification who receive such oil from a marketer that previously notified EPA are not required to notify. Owners and operators of used oil-fired space heaters that burn used oil fuel under the provisions of § 266.41(b)(2) are exempt from this notification requirement. Even if a burner has previously notified EPA of his hazardous waste management activities under section 3010 of RCRA and obtained an identification number, he must renotify to identify his used oil management activities.

(c) *Required notices.* Before a burner accepts the first shipment of off-specification used oil fuel from a marketer, he must provide the marketer a one-time written and signed notice certifying that:

(1) He has notified EPA stating the location and general description of his used oil management activities; and

(2) He will burn the used oil only in an industrial furnace or boiler identified in § 266.41(b); and

(d) *Used oil fuel analysis.* (1) Used oil fuel burned by the generator is subject to regulation under this subpart unless the burner obtains analysis (or other information) documenting that the used oil meets the specification provided under § 266.40(e).

(2) Burners who treat off-specification used oil fuel by processing, blending, or other treatment to meet the specification provided under § 266.40(e) must obtain analyses (or other information) documenting that the used oil meets the specification.

(e) *Recordkeeping.* A burner who receives an invoice under the requirements of this section must keep a copy of each invoice for three years from the date the invoice is received. Burners must also keep for three years copies of analyses of used oil fuel as may be required by paragraph (d) of this section. In addition, he must keep a copy of each certification notice that he sends to a marketer for three years from the date he last receives off-specification used oil from that marketer.

(The notification requirements contained in paragraph (b) of this section were approved by OMB under control number 2050-0028. The certification requirements contained in paragraph (c) of this section were approved by OMB under control number 2050-0047. The analysis requirements contained in paragraph (d) of this section were approved by OMB under control number 2050-0047. The recordkeeping requirements contained in paragraph (e) of this section were approved by OMB under control number 2050-0047.)

[50 FR 49205, Nov. 29, 1985, as amended at 52 FR 11822, Apr. 13, 1987]

Subpart F—Recyclable Materials Utilized for Precious Metal Recovery

§ 266.70 Applicability and requirements.

(a) The regulations of this subpart apply to recyclable materials that are reclaimed to recover economically significant amounts of gold, silver, platinum, paladium, irridium, osmium, rhodium, ruthenium, or any combination of these.

(b) Persons who generate, transport, or store recyclable materials that are regulated under this subpart are subject to the following requirements:

(1) Notification requirements under section 3010 of RCRA;

(2) Subpart B of Part 262 (for generators), §§ 263.20 and 263.21 (for transporters), and §§ 265.71 and 265.72 (for persons who store) of this chapter;

(c) Persons who store recycled materials that are regulated under this subpart must keep the following records to document that they are not accumulating these materials speculatively (as defined in § 261.1(c) of this chapter);

(1) Records showing the volume of these materials stored at the beginning of the calendar year;

(2) The amount of these materials generated or received during the calendar year; and

(3) The amount of materials remaining at the end of the calendar year.

(d) Recyclable materials that are regulated under this subpart that are accumulated speculatively (as defined in § 261.1(c) of this chapter) are subject to all applicable provisions of Parts 262 through 265, 270 and 124 of this chapter.

Subpart G—Spent Lead-Acid Batteries Being Reclaimed

§ 266.80 Applicability and requirements.

(a) The regulations of this subpart apply to persons who reclaim spent lead-acid batteries that are recyclable materials ("spent batteries"). Persons who generate, transport, or collect spent batteries, or who store spent batteries but do not reclaim them are not subject to regulation under Parts 262 through 266 or Part 270 or 124 of this chapter, and also are not subject to the requirements of section 3010 of RCRA.

(b) Owners or operators of facilities that store spent batteries before reclaiming them are subject to the following requirements.

(1) Notification requirements under section 3010 of RCRA;

(2) All applicable provisions in Subparts A, B (but not § 264.13 (waste analysis)), C, D, E (but not § 264.71 or § 264.72 (dealing with the use of the manifest and manifest discrepancies)), and F through L of Part 264 of this chapter;

[50 FR 666, Jan. 4, 1985, as amended at 50 FR 33543, Aug. 20, 1985]

PART 267—INTERIM STANDARDS FOR OWNERS AND OPERATORS OF NEW HAZARDOUS WASTE LAND DISPOSAL FACILITIES

Subpart A—General

Sec.
267.1 Purpose, scope and applicability.
267.2 Applicability of Part 264 standards.
267.3 Duration of Part 267 standards and their relationship to permits.
267.4 Imminent hazard action.
267.5 Additional permit procedures applicable to Part 267.
267.6 Definitions.

Subpart B—Environmental Performance Standard

267.10 Environmental performance standard.

Subpart C—Landfills

267.20 Applicability.
267.21 General design requirements.
267.22 General operating requirements.
267.23 Closure and post-closure.
267.24 Treatment of waste.
267.25 Additional requirements.

Subpart D—Surface Impoundments

267.30 Applicability.
267.31 General design requirements.
267.32 General operating requirements.
267.33 Closure and post-closure.
267.34 Treatment of waste.
267.35 Additional requirements.

Subpart E—Land Treatment

267.40 Applicability.
267.41 General design requirements.
267.42 General operating requirements.
267.43 Unsaturated zone monitoring.
267.44 Closure and post-closure.
267.45 Treatment of waste.
267.46 Additional requirements.

Subpart F—Ground-Water Monitoring

267.50 Applicability.
267.51 Ground-water monitoring system.
267.52 Ground-water monitoring procedures.
267.53 Additional requirements.

Subpart G—Underground Injection

267.60 Applicability.

Sec.
267.61 General design requirements.
267.62 General operating requirements.
267.63 Closure.
267.64 Additional requirements.

AUTHORITY: Secs. 1006, 2202(a), 3004 and 3005 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended, 42 U.S.C. 6905, 6912(a), 6924 and 6925.

SOURCE: 46 FR 12429, Feb. 13, 1981, unless otherwise noted.

Subpart A—General

§ 267.1 Purpose, scope and applicability.

(a) The purpose of this part is to establish minimum national standards that define the acceptable management of hazardous waste for new land disposal facilities.

(b) The regulations in this part apply to owners and operators of new hazardous waste landfills, surface impoundments, land treatment facilities and Class 1 underground injection wells (as defined in § 122.32(g) of this chapter) that require individual RCRA permits under 40 CFR Part 122.

(c) The requirements of this part do not apply to:

(1) A person disposing of hazardous waste by means of ocean disposal subject to a RCRA permit by rule issued under § 122.26(a) of this chapter.

(2) A person disposing of hazardous waste by means of underground injection subject to a RCRA permit by rule under § 122.26(b) of this chapter.

(3) An owner or operator of a POTW subject to a RCRA permit by rule under § 122.26(c) of this chapter.

(4) The owner or operator of a facility permitted, licensed, or registered by a State to manage municipal or industrial solid waste, if the only hazardous waste the facility treats, stores, or disposes of is excluded from regulation under Parts 262 through 265 and Parts 122 and 124 of this chapter by § 261.5 of this chapter;

(5) The owner or operator of a facility which treats or stores hazardous waste, which treatment or storage meets the criteria in § 261.6(A) of this chapter, except to the extent that § 261.6(b) of this chapter provides otherwise;

(6) A generator accumulating waste on-site in compliance with § 262.34 of this chapter;

(7) A farmer disposing of waste pesticides from his own use in compliance with § 262.51 of this chapter;

(8) The owner or operator of a totally enclosed treatment facility, as defined in § 260.10;

(9) The owner or operator of an elementary neutralization unit or a wastewater treatment unit as defined in § 260.10 of this chapter.

(10) Persons with respect to those activities that are carried out to immediately contain or treat a spill of hazardous waste or material which, when spilled, becomes a hazardous waste.

§ 267.2 Applicability of Part 264 standards.

In addition to the standards contained in this part, owners and operators of new hazardous waste landfills, surface impoundments, land treatment facilities and underground injection wells must comply with § 264.18 and Subparts B, C, D, E, G and H of Part 264.

§ 267.3 Duration of Part 267 standards and their relationship to permits.

(a) The regulations in this subpart are applicable, and will serve as a basis for issuing permits, to owners or operators of new hazardous waste landfills, surface impoundments, land treatment facilities, or underground injection facilities until final Part 264 regulations for such facilities become effective or until February 13, 1983, whichever is earlier.

(b) Only those owners and operators of new hazardous waste landfills, surface impoundments, land treatment facilities or underground injection wells who have applied for a permit and for whom public notice of the preparation of a draft permit has been issued under § 124.10 of this chapter by the date final Part 264 regulations for these facilities become effective or [2 years after date of publication], whichever is earlier, may be issued permits under the regulations in this part.

§267.4 Imminent hazard action.

Notwithstanding any other provisions of these regulations, enforcement actions may be brought pursuant to section 7003 of RCRA.

267.5 Additional permit procedures applicable to Part 267.

(a) The procedures for issuance, nodification, revocation and reissuance, and termination of permits nder this part are set forth in Part 24 of this chapter. In addition, the ollowing procedures apply to permits nder Part 267:

(1) Any facility for which a draft ermit is prepared pursuant to this art is a major hazardous waste mangement facility. A fact sheet shall be repared for each such facility in acordance with § 124.8. Instead of the orief summary of the basis for the raft permit conditions" required by 124.8(b)(4), the fact sheet shall inude a detailed discussion of basis for e draft permit conditions. This shall clude a demonstration that relevant ctors listed in Subparts C through G this part were considered and a owing of how the draft permit reects these considerations.

(2) The Administrator shall accept y petition under § 124.19 of this apter and any appeal under 24.125 of this chapter to review a rmit issued under this part.

b) The provisions of Subparts A and in Part 122 of this chapter apply to rmits under Part 267. In addition to e information required by § 122.4 d § 122.25 of this chapter, the applications for permits under this part st include the following information:

1) For a landfill sufficient information to demonstrate compliance with bparts C and F of this part.

2) For a surface impoundment, sufient information to demonstrate npliance with Subparts D and F of s part.

3) For a land treatment facility, sufent information to demonstrate npliance with Subparts E and F of s part.

) For an underground injection l, sufficient information to demonate compliance with Subpart G of s part.

§ 267.6 Definitions.

Unless otherwise specified in this part, terms used in this regulation are defined in §§ 260.10 and 122.3 of this chapter.

Subpart B—Environmental Performance Standard

§ 267.10 Environmental performance standard.

All new landfills, surface impoundments, land treatment facilities and underground injection wells shall be located, designed, constructed, operated, maintained and closed in a manner that will assure protection of human health and the environment. Protection of human health and the environment shall include, but not be limited to:

(a) Prevention of adverse effects on ground-water quality considering:

(1) The volume and physical and chemical characteristics of the waste in the facility, including its potential for migration through soil or through synthetic liner materials;

(2) The hydrogeological characteristics of the facility and surrounding land;

(3) The quantity, quality and directions of ground-water flow;

(4) The proximity and withdrawal rates of ground-water users;

(5) The existing quality of groundwater, including other sources of contamination and their cumulative impact on the ground-water;

(6) The potential for health risks caused by human exposure to waste constituents;

(7) The potential damage to wildlife, crops, vegetation and physical structures caused by exposure to waste constituents;

(8) The persistence and permanence of the potential adverse effects; and

(b) Prevention of adverse effects on surface water quality considering:

(1) The volume and physical and chemical characteristics of the waste in the facility;

(2) The hydrogeological characteristics of the facility and surrounding land, including the topography of the area around the facility;

(3) The quantity, quality and directions of groundwater flow;

(4) The patterns of rainfall in the region;

(5) The proximity of the facility to surface waters;

(6) The uses of nearby surface waters and any water quality standards established for those surface waters;

(7) The existing quality of surface water, including other sources of contamination and their cumulative impact on surface water;

(8) The potential for health risks caused by human exposure to waste constituents;

(9) The potential damage to wildlife, crops, vegetation and physical structures caused by exposure to waste constitutents;

(10) The persistence and permanence of the potential adverse effects; and

(c) Prevention of adverse effects on air quality, considering:

(1) The volume and physical and chemical characteristics of the waste in the facility, including its potential for volatilization and wind dispersal;

(2) The existing quality of the air, including other sources of contamination and their cumulative impact on the air;

(3) The potential for health risks caused by human exposure to waste constitutents;

(4) The potential damage to wildlife, crops, vegetation and physical structures caused by exposure to waste constituents;

(5) The persistence and permanence of the potential adverse effects; and

(d) Prevention of adverse effects due to migration of waste constituents in the subsurface environment, considering:

(1) The volume and physical and chemical characteristics of the waste in the facility, including its potential for migration through soil;

(2) The geologic characteristics of the facility and surrounding land;

(3) The patterns of land use in the region;

(4) The potential for migration of waste constituents into sub-surface physical structures;

(5) The potential for migration waste constituents into the root z of food-chain crops and other vege tion;

(6) The potential for health ri caused by human exposure to wa constituents;

(7) The potential damage to wildli crops, vegetation and physical str tures caused by exposure to waste c stituents; and

(8) The persistence and permaner of the potential adverse effects.

Subpart C—Landfills

§ 267.20 Applicability.

The regulations in this subpa apply to owners and operators of n facilities that dispose of hazardo waste in landfills.

§ 267.21 General design requirements.

(a) Each landfill must include a lin designed to comply with § 267 10 this part. The design of the facili liner must reflect a consideration of:

(1) The physical and chemical cha acteristics of the waste in the facilit

(2) The pressure head of leachate o the liner;

(3) Climatic conditions in the area;

(4) The permeability of the liner ma terial, including compaction densit and moisture content where earthe materials are present;

(5) The physical and chemical prop erties of the soil underlying the facili ty that supports any emplaced liner and

(6) The potential for damage to th liner system that could occur durin installation of any emplaced liner.

(b) Each landfill must include leachate and runoff control system designed to comply with § 267.10 of thi part. The design of the facility leachate and runoff control system must reflect a consideration of:

(1) The physical and chemical characteristics of the waste in the facility

(2) Climatic conditions in the area;

(3) The volume of leachate or contaminated runoff that could be produced at the facility; and

(4) The available options for managing any leachate or contaminated runoff that is collected at the facility.

§ 267.22 General operating requirements.

(a) Incompatible wastes, or incompatible waste and materials, must not be placed in the same landfill, unless § 264.17(b) is complied with. The waste analysis plan required by § 264.13 must include the analysis needed to comply with this paragraph.

(b) Any emplaced liner material must be installed in a manner that will protect the function and physical integrity of the liner.

(c) The leachate and runoff control system must be operated and maintained in a manner that will comply with § 267.10 of this part. The procedures for operating the leachate and runoff control system must reflect a consideration of:

(1) The volume of leachate or contaminated runoff produced at the facility;

(2) The capacity of any leachate or runoff collection device at the facility;

(3) Climatic conditions in the area; and

(4) The quality of the leachate or runoff produced and the available alternatives for managing any leachate or contaminated runoff produced at the facility.

(d) The landfill must be inspected at a sufficient frequency to assure compliance with § 267.10 of this part.

§ 267.23 Closure and post-closure.

(a) A landfill must be closed in a manner that will comply with § 267.10 of this part. Closure must include placement of a final cover over the landfill, and the closure plan under § 264.112 of this chapter must specify the function and design of the cover. Proper closure of a landfill must reflect a consideration of:

(1) The type and amount of waste in the facility;

(2) The mobility and expected rate of migration of waste;

(3) Site location, topography and surrounding land use;

(4) Climatic conditions in the area;

(5) Characteristics of the cover including material, final surface contours, thickness, porosity and permeability, slope, length of run of slope, and type of vegetation on the cover; and

(6) Geological and soil profiles and surface and subsurface hydrology of the site.

(b) A landfill must be maintained in a manner that complies with § 267.10 of this part during the post-closure period. The post-closure plan under § 264.118 of this chapter must specify the procedures that will be used to satisfy this paragraph. Proper maintenance of a landfill during the post-closure period must reflect a consideration of:

(1) The type and amount of waste in the facility;

(2) The mobility and expected rate of migration of the waste;

(3) Site location, topography and surrounding land use;

(4) Climatic conditions in the area;

(5) Characteristics of the cover including material, final surface contours, thickness, porosity and permeability, slope, length of run of slope, and type of vegetation on the cover;

(6) Geological and soil profiles and surface and subsurface hydrology of the site; and

(7) The maintenance of any groundwater monitoring system or leachate and runoff control system at the facility.

§ 267.24 Treatment of waste.

The Regional Administrator may waive any of the requirements in §§ 267.21, 267.22 or 267.23 of this subpart where necessary to achieve treatment of hazardous waste in a landfill, provided that the waiver does not result in noncompliance with § 267.10.

§ 267.25 Additional requirements.

The Regional Administrator may place additional requirements on owners and operators of new landfills, besides those otherwise required by this subpart, where necessary to comply with § 267.10 of this part.

Subpart D—Surface Impoundments

§ 267.30 Applicability.

The regulations in this subpart apply to owners and operators of new facilities that dispose of hazardous waste in surface impoundments.

§ 267.31 General design requirements.

(a) Each surface impoundment must include a liner designed to comply with § 267.10 of this part. The design of the facility liner must reflect a consideration of:

(1) The physical and chemical characteristics of the waste in the facility;

(2) The pressure head on the liner;

(3) Climatic conditions in the area;

(4) The permeability of the liner material, including compaction density and moisture content where earthen materials are present;

(5) The physical and chemical properties of the soil underlying the facility that supports any emplaced liner; and

(6) The potential for damage to the liner system that could occur during installation of any emplaced liner.

(b) Each surface impoundment must be designed so as to prevent overtopping due to wind and wave action, overfilling, precipitation or any combination thereof.

(c) Where dikes are part of the surface impoundment, the dikes must be designed to comply with § 267.10 of this part. The design of any facility dikes must reflect a consideration of:

(1) The structural integrity of the dike, including the effects of plants and burrowing animals on earthern dikes;

(2) The potential for water erosion of the dike; and

(3) The potential for wind erosion of the dike.

§ 267.32 General operating requirements.

(a) Incompatible wastes, or incompatible wastes and materials, must not be placed in the same surface impoundment, unless § 264.17(b) is complied with. The waste analysis plan required by § 264.13 must include the analyses needed to comply with this paragraph.

(b) Any emplaced liner material must ber installed in a manner that will protect the function and physical integrity of the liner.

(c) The surface impoundment must be operated so as to prevent overtopping due to wind and wave action, overfilling, precipitation or any combination thereof.

(d) The surface impoundment must be inspected at a sufficient frequency to assure compliance with § 267.10 of this part.

§ 267.33 Closure and post-closure.

(a) A surface impoundment must be closed in a manner that will comply with § 267.10 of this part. Closure must include placement of a final cover over the surface impoundment, and the closure plan under § 264.112 of this chapter must specify the function and design of the cover. Proper closure of a surface impoundment must reflect a consideration of:

(1) The type and amount of waste in the facility, including the amount of free liquids;

(2) The mobility and expected rate of migration of the waste;

(3) Site location, topography and surrounding land use;

(4) Climatic conditions in the area;

(5) Characteristics of the cover including material, final surface contours, thickness, porosity and permeability, slope, length of run of slope and type of vegetation on the cover;

(6) Geological and soil profiles and surface and subsurface hydrology of the site; and

(7) The potential for eliminating free liquids from the facility.

(b) A surface impoundment must be maintained in a manner that complies with § 267.10 of this part during the post-closure period. The post-closure plan under § 264.118 of this chapter must specify the procedures that will be used to satisfy this paragraph. Proper maintenance of a surface impoundment during the post-closure period must reflect a consideration of:

(1) The type and amount of waste in the facility;

(2) The mobility and expected rate of migration of the waste;

(3) Site location, topography and surrounding land use;

(4) Climatic conditions in the area;

(5) Characteristics of the cover including material, final surface contours, thickness, porosity and permeability, slope, length of run of slope, and type of vegetation on the cover;

(6) Geological and soil profiles and surface and subsurface hydrology of the site; and

(7) The maintenance of any groundwater monitoring system at the facility.

§ 267.34 Treatment of waste.

The Regional Administrator may waive any of the requirements in §§ 267.31, 267.32 or 267.33 of this subpart where necessary to achieve treatment of hazardous waste in a surface impoundment, provided that the waiver does not result in noncompliance.

§ 267.35 Additional requirements.

The Regional Administrator may place additional requirements on owners and operators of new surface impoundments, besides those otherwise required by this subpart, where necessary to comply with § 267.10 of this part.

Subpart E—Land Treatment

§ 267.40 Applicability.

The regulations in this subpart apply to owners and operators of new facilities that dispose of hazardous waste in land treatment facilities.

267.41 General design requirements.

Each land treatment facility must nclude a runoff control system deigned to comply with § 267.10 of this art. The design of the facility runoff ontrol system must reflect a considertion of:

(a) The physical, biological and hemical characteristics of the waste the facility;

(b) Climatic conditions in the area;

(c) The volume of runoff that could produced at the facility; and

(d) The available options for managg any contaminated runoff that is llected at the facility.

67.42 General operating requirements.

a) Incompatible wastes, or incomtible wastes and materials, must not placed in the same land treatment ility, unless § 264.17(b) is complied h. The waste analysis plan required by § 264.13 must include the analyses needed to comply with this paragraph.

(b) The runoff control system must be operated and maintained in a manner that will comply with § 267.10 of this part. The procedures for operating the runoff control system must reflect a consideration of:

(1) The volume of contaminated runoff produced at the facility;

(2) The capacity of any runoff collection device at the facility;

(3) Climatic conditions in the area; and

(4) The quality of the runoff produced and the available options for managing any contaminated runoff from the facility.

(c) The land treatment facility must be operated to treat the waste in the facility to the extent necessary to comply with § 267.10 of this part.

(d) If food-chain crops are grown at the facility, the facility must be operated in a manner designed to protect the quality of those crops to the extent necessary to comply with § 267.10 of this part. Proper operation of a land treatment facility on which food-chain crops are grown must reflect a consideration of:

(1) The characteristics of the soil, including the pH;

(2) The volume and chemical, biological and physical characteristics of the waste in the facility;

(3) The type of crop to be grown;

(4) The manner in which such crop marketed (e.g. direct sale to consumers, use as an animal feed grain);

(5) The potential future uses of the facility;

(6) The potential for crop uptake of waste constituents; and

(7) The potential exposure of workers who handle the crop to waste constituents.

(e) The treatment facility must be inspected at a sufficient frequency to assure compliance with § 267.10 of this part.

§ 267.43 Unsaturated zone monitoring.

In addition to the ground-water monitoring program required in Subpart F of this part, a land treatment facility must have an unsaturated zone monitoring program which will assure compliance with § 267.10. An unsaturated zone monitoring program must include an unsaturated zone monitoring system at the facility or at a representative test plot, as well as procedures for sampling, analysis and evaluation of data. The unsaturated zone monitoring program required by this paragraph must reflect a consideration of:

(a) The placement and depth of monitoring wells that is necessary to obtain a representative sample of the success of waste treatment in the facility;

(b) Soil characteristics, including its pH, its permeability and the level of microbial activity in the soil;

(c) Climatic conditions in the area;

(d) The potential for rapid migration of waste constituents through the soil; and

(e) The accessibility of the monitoring system devices for maintenance and repair.

§ 267.44 Closure and post-closure.

(a) A land treatment facility must be closed in a manner that will comply with § 267.10 of this part. The closure plan under § 264.112 of this chapter must specify the measures which will be used to satisfy this paragraph. Proper closure of a land treatment facility must reflect a consideration of:

(1) The type and amount of waste applied to the facility;

(2) The mobility and expected rate of migration of the waste;

(3) Site location, topography and surrounding land use;

(4) Climatic conditions in the area, including the amount, frequency and pH of precipitation;

(5) Geologic and soil profiles and surface and subsurface hydrology of the site, including cation exchange capacity, total organic carbon and pH of the soil; and

(6) Unsaturated zone monitoring information obtained under § 267.43.

(b) A land treatment facility must be maintained in a manner that complies with § 267.10 of this part during the post-closure period. The post-closure plan under § 264.118 of this chapter must specify the procedures that will be used to satisfy this paragraph. Proper maintenance of a land treatment facility during the post-clos period must reflect a consideration

(1) The type and amount of wa applied to the facility;

(2) The mobility and expected r of migration of the waste;

(3) Site location, topography a surrounding land use;

(4) Climatic conditions in the ar including the amount, frequency a pH of precipitation;

(5) Geologic and soil profiles a surface and subsurface hydrology the site, including cation exchange c pacity, total organic carbon and pH the soil;

(6) Unsaturated zone monitoring i formation obtained under § 267.4 and

(7) The maintenance of any groun water monitoring system at the facil ty.

§ 267.45 Treatment of waste.

The Regional Administrator ma waive any of the requirements i § 267.21, § 267.22 or § 267.23 of thi subpart where necessary to achiev treatment of hazardous waste in a land treatment facility, provided tha the waiver does not result in non-com pliance with § 267.10.

§ 267.46 Additional requirements.

The Regional Administrator ma place additional requirements o owners or operators of new land treat ment facilities, besides those otherwis required by this subpart, where neces sary to comply with § 267.10 of thi part.

Subpart F—Ground-Water Monitoring

§ 267.50 Applicability.

Each new hazardous waste landfil surface impoundment, or land treat ment facility must have a ground water monitoring program, which i cludes a ground-water monitoring system, procedures for sampling, anal ysis and evaluation of ground-wate data, and appropriate response proce dures.

§ 267.51 Ground-water monitoring system

The ground-water system requir by this subpart must be capable of th termining the facility's impact on ground-water in the uppermost aquifer so as to assure compliance with § 267.10 of this part. The design of the ground-water monitoring system must reflect a consideration of:

(a) The placement and depth of monitoring wells that is necessary to obtain a representative sample of constituents in the uppermost aquifer, including those present in the ground-water upgradient from the facility;

(b) Measures such as casing which maintain the integrity of the monitoring well bore hole; and

(c) Measures which prevent contamination of ground-water samples.

§ 267.52 Ground-water monitoring procedures.

(a) The ground-water monitoring procedures required by this subpart must be capable of assuring compliance with § 267.10 of this part. The procedures must reflect a consideration of:

(1) Sample collection procedures;

(2) Sample preservation and shipment procedures;

(3) Analytical methods;

(4) Chain of custody control; and

(5) Evaluation procedures, including methods for determining the extent and rate of migration of waste constituents.

(b) The ground-water monitoring procedures required by this subpart must include appropriate procedures for when the ground-water monitoring program indicates that the facility is not in compliance with § 267.10 of this part. Such response procedures must be contained in the contingency plan required by Subpart D of Part 264.

§ 267.53 Additional requirements.

The Regional Administrator may place additional ground-water monioring requirements on owners or oprators of facilities subject to this art, besides those otherwise required y this subpart, where necessary to omply with § 267.10 of this part.

Subpart G—Underground Injection

267.60 Applicability.

The regulations in this subpart pply to owners and operators of new facilities that dispose of hazard waste in underground injection wells which are classified as Class I under § 122.32(a) of this chapter.

§ 267.61 General design requirements.

An injection well must be designed to comply with § 267.10 of this part. The facility design must include measures (*e.g.* casing, tubing and packer set) to prevent the escape of injected fluids to the area above the zone of injection.

§ 267.62 General operating requirements.

An injection well must be operated in a manner that will comply with § 267.10 of this part. The methods for operating the injection well must reflect a consideration of:

(a) The volume and physical and chemical characteristics of the waste injected in the well;

(b) The injection pressure; and

(c) Monitoring measures to assure that the mechanical integrity of the well is maintained.

§ 267.63 Closure.

An injection well must be plugged and sealed at closure to prevent the escape of injected fluids to the area above the zone of injection.

§ 267.64 Additional requirements.

The Regional Administrator may place additional requirements on owners and operators of new injection wells, besides those otherwise required by this subpart, where necessary to comply with § 267.10 of this part.

PART 268—LAND DISPOSAL RESTRICTIONS

Subpart A—General

Sec.
268.1 Purpose, scope, and applicability.
268.2 Definitions applicable in this part.
268.3 Dilution prohibited as a substitute for treatment.
268.4 Treatment surface impoundment exemption.
268.5 Procedures for case-by-case extensions to an effective date.

Sec.

268.6 Petitions to allow land disposal of a waste prohibited under Subpart C of Part 268.
268.7 Waste analysis.
268.8 Landfill and surface impoundment disposal restrictions.
268.9 Special rules regarding wastes that exhibit a characteristic.

Subpart B—Schedule for Land Disposal Prohibition and Establishment of Treatment Standards

268.10 Identification of wastes to be evaluated by August 8, 1988.
268.11 Identification of wastes to be evaluated by June 8, 1989.
268.12 Identification of wastes to be evaluated by May 8, 1990.
268.13 Schedule for wastes identified or listed after November 8, 1984.

Subpart C—Prohibitions on Land Disposal

268.30 Waste specific prohibitions—Solvent wastes.
268.31 Waste specific prohibitions—Dioxin-containing wastes.
268.32 Waste specific prohibitions—California list wastes.
268.33 Waste specific prohibitions—First third wastes.
268.34 Waste specific prohibitions—second third wastes.
268.35 Waste specific prohibitions—Third Third wastes.

Subpart D—Treatment Standards

268.40 Applicability of treatment standards.
268.41 Treatment standards expressed as concentrations in waste extract.
268.42 Treatment standards expressed as specified technologies.
268.43 Treatment standards expressed as waste concentrations. [Reserved]
268.44 Variance from a treatment standard.

Subpart E—Prohibitions on Storage

268.50 Prohibitions on storage of restricted wastes.

APPENDIX I—TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP) [NOTE]
APPENDIX II—TREATMENT STANDARDS (AS CONCENTRATIONS IN THE TREATMENT RESIDUAL EXTRACT)
APPENDIX III—LIST OF HALOGENATED ORGANIC COMPOUNDS REGULATED UNDER § 268.32
APPENDIX IV—ORGANOMETALLIC LAB PACKS
APPENDIX V—ORGANIC LAB PACKS
APPENDIX VI—RECOMMENDED TECHNOLOG TO ACHIEVE DEACTIVATION OF CHARACT ISTICS IN SECTION 268.42
APPENDIX VII—EFFECTIVE DATES OF SUR DISPOSED WASTES REGULATED IN LDRs
APPENDIX VIII—NATIONAL CAPACITY L VARIANCES FOR UIC WASTES COMPREH SIVE LIST

AUTHORITY: 42 U.S.C. 6905, 6912(a), 69 and 6924.

Subpart A—General

§ 268.1 Purpose, scope and applicability.

(a) This part identifies hazardo wastes that are restricted from la disposal and defines those limited c cumstances under which an otherwi prohibited waste may continue to land disposed.

(b) Except as specifically provide otherwise in this part or Part 261 this chapter, the requirements of th part apply to persons who generate transport hazardous waste and owne and operators of hazardous was treatment, storage, and disposal facil ties.

(c) Restricted wastes may continu to be land disposed as follows:

(1) Where persons have been granted an extension to the effective dat of a prohibition under Subpart C this part or pursuant to § 268.5, wit respect to those wastes covered by th extension;

(2) Where persons have been granted an exemption from a prohibitio pursuant to a petition under § 268.6 with respect to those wastes and units covered by the petition;

(3) Wastes that are hazardous only because they exhibit a hazardous characteristic, and which are otherwise prohibited from land disposal under this part, are not prohibited from land disposal if the wastes:

(i) Are disposed into a nonhazardous or hazardous injection well as defined in 40 CFR 144.6(a); and

(ii) Do not exhibit any prohibited characteristic of hazardous waste at the point of injection.

(d) The requirements of this part shall not affect the availability of a waiver under section 121(d)(4) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA).

(e) The following hazardous wastes are not subject to any provision of part 268:

(1) Waste generated by small quantity generators of less than 100 kilograms of non-acute hazardous waste or less than 1 kilogram of acute hazardous waste per month, as defined in § 261.5 of this chapter;

(2) Waste pesticides that a farmer disposes of pursuant to § 262.70;

(3) Wastes identified or listed as hazardous after November 8, 1984 for which EPA has not promulgated land disposal prohibitions or treatment standards.

[51 FR 40638, Nov. 7, 1986; 52 FR 21016, June 4, 1987, as amended at 53 FR 27165, July 19, 1988; 53 FR 31212, Aug. 17, 1988; 54 FR 36970, Sept. 6, 1989; 55 FR 22686, June 1, 1990]

§ 268.2 Definitions applicable in this part.

When used in this part the following terms have the meanings given below:

(a) *Halogenated organic compounds* or *HOCs* means those compounds having a carbon-halogen bond which are listed under appendix III to this part.

(b) *Hazardous constituent or constituents* means those constituents listed in appendix VIII to part 261 of this chapter.

(c) *Land disposal* means placement in or on the land and includes, but is not limited to, placement in a landfill, surface impoundment, waste pile, injection well, land treatment facility, salt dome formation, salt bed formation, underground mine or cave, or placement in a concrete vault or bunker intended for disposal purposes.

(d) *Nonwastewaters* are wastes that do not meet the criteria for wastewaters in paragraph (g)(6) of this section.

(e) *Polychlorinated biphenyls* or *PCBs* are halogenated organic compounds defined in accordance with 40 CFR 761.3.

(f) *Wastewaters* are wastes that contain less than 1% by weight total organic carbon (TOC) *and* less than 1% by weight total suspended solids (TSS), with the following exceptions:

(1) *F001, F002, F003, F004, F005 solvent-water mixtures* that contain less than 1% by weight TOC or less than 1% by weight total F001, F002, F003, F004, F005 solvent constituents listed in § 268.41, Table CCWE.

(2) *K011, K013, K014 wastewaters* (as generated) that contain less than 5% by weight TOC and less than 1% by weight TSS.

(3) *K103 and K104 wastewaters* contain less than 4% by weight TOC and less than 1% by weight TSS.

(g) *Inorganic Solid Debris* are nonfriable inorganic solids that are incapable of passing through a 9.5 mm standard sieve that require cutting, or crushing and grinding in mechanical sizing equipment prior to stabilization, limited to the following inorganic or metal materials:

(1) Metal slags (either dross or scoria).

(2) Glassified slag.

(3) Glass.

(4) Concrete (excluding cementitious or pozzolanic stabilized hazardous wastes).

(5) Masonry and refractory bricks.

(6) Metal cans, containers, drums, or tanks.

(7) Metal nuts, bolts, pipes, pumps, valves, appliances, or industrial equipment.

(8) Scrap metal as defined in 40 CFR 261.1(c)(6).

[55 FR 22686, June 1, 1990]

§ 268.3 Dilution prohibited as a substitute for treatment.

(a) Except as provided in paragraph (b) of this section, no generator, transporter, handler, or owner or operator of a treatment, storage, or disposal facility shall in any way dilute a restricted waste or the residual from treatment of a restricted waste as a substitute for adequate treatment to achieve compliance with subpart D of this part, to circumvent the effective date of a prohibition in subpart C of this part, to otherwise avoid a prohibition in subpart C of this part, or to circumvent a land disposal prohibition imposed by RCRA section 3004.

(b) Dilution of wastes that are hazardous only because they exhibit a characteristic in a treatment system which treats wastes subsequently discharged to a water of the United States pursuant to a permit issued under section 402 of the Clean Water Act (CWA) or which treats wastes for purposes of pretreatment requirements under section 307 of the CWA is not impermissible dilution for purposes of this section unless a method has been specified as the treatment standard in § 268.42.

[55 FR 22686, June 1, 1990]

§ 268.4 Treatment surface impoundment exemption.

(a) Wastes which are otherwise prohibited from land disposal under this part may be treated in a surface impoundment or series of impoundments provided that:

(1) Treatment of such wastes occurs in the impoundments;

(2) The following conditions are met:

(i) *Sampling and testing.* For wastes with treatment standards in Subpart D of this part and/or prohibition levels in Subpart C of this part or RCRA section 3004(d), the residues from treatment are analyzed, as specified in § 268.7 or § 268.32, to determine if they meet the applicable treatment standards or where no treatment standards have been established for the waste, the applicable prohibition levels. The sampling method, specified in the waste analysis plan under § 264.13 or § 265.13, must be designed such that representative samples of the sludge and the supernatant are tested separately rather than mixed to form homogeneous samples.

(ii) *Removal.* The following treatment residues (including any liquid waste) must be removed at least annually: residues which do not meet the treatment standards promulgated under Subpart D of this part; residues which do not meet the prohibition levels established under Subpart C of this part or imposed by statute (where no treatment standards have been established); residues which are from the treatment of wastes prohibited from land disposal under Subpart C of this part (where no treatment standards have been established and no prohibition levels apply); or residues from managing listed wastes which are not delisted under § 260.22 of this chapter. However, residues which are the subject of a valid certification under § 268.8 made no later than a year after placement of the wastes in an impoundment are not required to be removed annually. If the volume of liquid flowing through the impoundment or series of impoundments annually is greater than the volume of the impoundment or impoundments, this flow-through constitutes removal of the supernatant for the purpose of this requirement.

(iii) *Subsequent management.* Treatment residues may not be placed in any other surface impoundment for subsequent management unless the residues are the subject of a valid certification under § 268.8 which allows disposal in surface impoundments meeting the requirements of section 268.8(a).

(iv) *Recordkeeping.* The procedures and schedule for the sampling of impoundment contents, the analysis of test data, and the annual removal of residues which do not meet the treatment standards, or prohibition levels (where no treatment standards have been established), or which are from the treatment of wastes prohibited from land disposal under Subpart C (where no treatment standards have been established and no prohibition levels apply), must be specified in the facility's waste analysis plan as required under § 264.13 or § 265.13 of this chapter.

(3) The impoundment meets the design requirements of § 264.221(c) or § 265.221(a) of this chapter, regardless that the unit may not be new, expanded, or a replacement, and be in compliance with applicable ground water monitoring requirements of Subpart F of Part 264 or Part 264 of this chapter unless:

(i) Exempted pursuant to § 264.221 (d) or (e) of this chapter, or to § 265.221 (c) or (d) of this chapter; or,

(ii) Upon application by the owner or operator, the Administrator, after notice and an opportunity to comment, has granted a waiver of the requirements on the basis that the surface impoundment:

(A) Has at least one liner, for which there is no evidence that such liner is leaking;

(B) Is located more than one-quarter mile from an underground source of drinking water; and

(C) Is in compliance with generally applicable ground water monitoring requirements for facilities with permits; or,

(iii) Upon application by the owner or operator, the Administrator, after notice and an opportunity to comment, has granted a modification to the requirements on the basis of a demonstration that the surface impoundment is located, designed, and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.

(4) The owner or operator submits to the Regional Administrator a written certification that the requirements of §268.4(a)(3) have been met and submits a copy of the waste analysis plan required under § 268.4(a)(2). The following certification is required:

> I certify under penalty of law that the requirements of 40 CFR 268.4(a)(3) have been met for all surface impoundments being used to treat restricted wastes. I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and mprisonment.

(b) Evaporation of hazardous constituents as the principal means of reatment is not considered to be reatment for purposes of an exempion under this section.

51 FR 40638, Nov. 7, 1986; 52 FR 21016, une 4, 1987, as amended at 52 FR 25788, uly 8, 1987; 53 FR 31212, Aug. 17, 1988]

§ 268.5 Procedures for case-by-case extensions to an effective date.

(a) Any person who generates, reats, stores, or disposes of a hazardus waste may submit an application o the Administrator for an extension o the effective date of any applicable estriction established under Subpart C of this part. The applicant must emonstrate the following:

(1) He has made a good-faith effort o locate and contract with treatment, ecovery, or disposal facilities nationide to manage his waste in accordnce with the effective date of the applicable restriction established under Subpart C of this Part;

(2) He has entered into a binding contractual commitment to construct or otherwise provide alternative treatment, recovery (e.g., recycling), or disposal capacity that meets the treatment standards specified in Subpart D or, where treatment standards have not been specified, such treatment, recovery, or disposal capacity is protective of human health and the environment.

(3) Due to circumstances beyond the applicant's control, such alternative capacity cannot reasonably be made available by the applicable effective date. This demonstration may include a showing that the technical and practical difficulties associated with providing the alternative capacity will result in the capacity not being available by the applicable effective date;

(4) The capacity being constructed or otherwise provided by the applicant will be sufficient to manage the entire quantity of waste that is the subject of the application;

(5) He provides a detailed schedule for obtaining required operating and construction permits or an outline of how and when alternative capacity will be available;

(6) He has arranged for adequate capacity to manage his waste during an extension and has documented in the application the location of all sites at which the waste will be managed; and

(7) Any waste managed in a surface impoundment or landfill during the extension period will meet the requirements of paragraph (h)(2) of this section.

(b) An authorized representative signing an application described under paragraph (a) of this section shall make the following certification:

> I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(c) After receiving an application for an extension, the Administrator may request any additional information which he deems as necessary to evaluate the application.

(d) An extension will apply only to the waste generated at the individual facility covered by the application and will not apply to restricted waste from any other facility.

(e) On the basis of the information referred to in paragraph (a) of this section, after notice and opportunity for comment, and after consultation with appropriate State agencies in all affected States, the Administrator may grant an extension of up to 1 year from the effective date. The Administrator may renew this extension for up to 1 additional year upon the request of the applicant if the demonstration required in paragraph (a) of this section can still be made. In no event will an extension extend beyond 24 months from the applicable effective date specified in Subpart C of Part 268. The length of any extension authorized will be determined by the Administrator based on the time required to construct or obtain the type of capacity needed by the applicant as described in the completion schedule discussed in paragraph (a)(5) of this section. The Administrator will give public notice of the intent to approve or deny a petition and provide an opportunity for public comment. The final decision on a petition will be published in the FEDERAL REGISTER.

(f) Any person granted an extension under this section must immediately notify the Administrator as soon as he has knowledge of any change in the conditions certified to in the application.

(g) Any person granted an extension under this section shall submit written progress reports at intervals designated by the Administrator. Such reports must describe the overall progress made toward constructing or otherwise providing alternative treatment, recovery or disposal capacity; must identify any event which may cause or has caused a delay in the development of the capacity; and must summarize the steps taken to mitigate the delay. The Administrator can revoke the extension at any time if the applicant does not demonstrate a good-f effort to meet the schedule for c pletion, if the Agency denies or vokes any required permit, if co tions certified in the applica change, or for any violation of chapter.

(h) Whenever the Administrator tablishes an extension to an effec date under this section, during period for which such extension is effect:

(1) The storage restrictions un § 268.50(a) do not apply; and

(2) Such hazardous waste may disposed in a landfill or surface poundment only if such unit is in co pliance with the technical requi ments of the following provisions gardless of whether such unit is exi ing, new, or a replacement or later expansion.

(i) The landfill, if in interim statu is in compliance with the requiremen of Subpart F of Part 265 and § 265.3 (a), (c), and (d) of this chapter; or,

(ii) The landfill, if permitted, is compliance with the requirements Subpart F of Part 264 and § 264.3 (c), (d) and (e) of this chapter;

(iii) The surface impoundment, if interim status, is in compliance wit the requirements of Subpart F of Pa 265, § 265.221 (a), (c), and (d) of thi chapter, and RCRA section 3005(j)(1 or

(iv) The surface impoundment, i permitted, is in compliance with the requirements of Subpart F of Part 26 and § 264.221 (c), (d) and (e) of this chapter.

(v) The landfill, if disposing of containerized liquid hazardous wastes containing PCBs at concentrations greater than or equal to 50 ppm but less than 500 ppm, is also in compliance with the requirements of 40 CFR 761.75 and Parts 264 and 265.

(i) Pending a decision on the application the applicant is required to comply with all restrictions on land disposal under this part once the effective date for the waste has been reached.

(Approved by the Office of Management and Budget under control number 2050-0062)

[51 FR 40638, Nov. 7, 1986; 52 FR 21016, June 4, 1987, as amended at 52 FR 25788, July 8, 1987; 54 FR 36971, Sept. 6, 1989; 55 FR 23935, June 13, 1990]

§ 268.6 Petitions to allow land disposal of a waste prohibited under Subpart C of Part 268.

(a) Any person seeking an exemption from a prohibition under Subpart C of this part for the disposal of a restricted hazardous waste in a particular unit or units must submit a petition to the Administrator demonstrating, to a reasonable degree of certainty, that there will be no migration of hazardous constituents from the disposal unit or injection zone for as long as the wastes remain hazardous. The demonstration must include the following components:

(1) An identification of the specific waste and the specific unit for which the demonstration will be made;

(2) A waste analysis to describe fully the chemical and physical characteristics of the subject waste;

(3) A comprehensive characterization of the disposal unit site including an analysis of background air, soil, and water quality.

(4) A monitoring plan that detects migration at the earliest practicable time;

(5) Sufficient information to assure the Administrator that the owner or operator of a land disposal unit receiving restricted waste(s) will comply with other applicable Federal, State, and local laws.

(b) The demonstration referred to in paragraph (a) of this section must meet the following criteria:

(1) All waste and environmental sampling, test, and analysis data must be accurate and reproducible to the extent that state-of-the-art techniques allow;

(2) All sampling, testing, and estimation techniques for chemical and physical properties of the waste and all environmental parameters must have been approved by the Administrator;

(3) Simulation models must be calibrated for the specific waste and site conditions, and verified for accuracy by comparison with actual measurements;

(4) A quality assurance and quality control plan that addresses all aspects of the demonstration must be approved by the Administrator; and,

(5) An analysis must be performed to identify and quantify any aspects of the demonstration that contribute significantly to uncertainty. This analysis must include an evaluation of the consequences of predictable future events, including, but not limited to, earthquakes, floods, severe storm events, droughts, or other natural phenomena.

(c) Each petition referred to in paragrapn (a) of this section must include the following:

(1) A monitoring plan that describes the monitoring program installed at and/or around the unit to verify continued compliance with the conditions of the variance. This monitoring plan must provide information on the monitoring of the unit and/or the environment around the unit. The following specific information must be included in the plan:

(i) The media monitored in the cases where monitoring of the environment around the unit is required;

(ii) The type of monitoring conducted at the unit, in the cases where monitoring of the unit is required;

(iii) The location of the monitoring stations;

(iv) The monitoring interval (frequency of monitoring at each station);

(v) The specific hazardous constituents to be monitored;

(vi) The implementation schedule for the monitoring program;

(vii) The equipment used at the monitoring stations;

(viii) The sampling and analytical techniques employed; and

(ix) The data recording/reporting procedures.

(2) Where applicable, the monitoring program described in paragraph (c)(1) of this section must be in place for a period of time specified by the Administrator, as part of his approval of the petition, prior to receipt of prohibited waste at the unit.

(3) The monitoring data collected according to the monitoring plan specified under paragraph (c)(1) of this section must be sent to the Administrator according to a format and schedule

specified and approved in the monitoring plan, and

(4) A copy of the monitoring data collected under the monitoring plan specified under paragraph (c)(1) of this section must be kept on-site at the facility in the operating record.

(5) The monitoring program specified under paragraph (c)(1) of this section meet the following criteria:

(i) All sampling, testing, and analytical data must be approved by the Administrator and must provide data that is accurate and reproducible.

(ii) All estimation and monitoring techniques must be approved by the Administrator.

(iii) A quality assurance and quality control plan addressing all aspects of the monitoring program must be provided to and approved by the Administrator.

(d) Each petition must be submitted to the Administrator.

(e) After a petition has been approved, the owner or operator must report any changes in conditions at the unit and/or the environment around the unit that significantly depart from the conditions described in the variance and affect the potential for migration of hazardous constituents from the units as follows:

(1) If the owner or operator plans to make changes to the unit design, construction, or operation, such a change must be proposed, in writing, and the owner or operator must submit a demonstration to the Administrator at least 30 days prior to making the change. The Administrator will determine whether the proposed change invalidates the terms of the petition and will determine the appropriate response. Any change must be approved by the Administrator prior to being made.

(2) If the owner or operator discovers that a condition at the site which was modeled or predicted in the petition does not occur as predicted, this change must be reported, in writing, to the Administrator within 10 days of discovering the change. The Administrator will determine whether the reported change from the terms of the petition requires further action, which may include termination of waste acceptance and revocation of the petition, petition modifications, or oth responses.

(f) If the owner or operator det mines that there is migration of h ardous constituent(s) from the un the owner or operator must:

(1) Immediately suspend receipt prohibited waste at the unit, and

(2) Notify the Administrator, in wri ing, within 10 days of the determin tion that a release has occurred.

(3) Following receipt of the notific tion the Administrator will determin within 60 days of receiving notific tion, whether the owner or operato can continue to receive prohibite waste in the unit and whether th variance is to be revoked. The Admin istrator shall also determine whethe further examination of any migratio is warranted under applicable provi sions of Part 264 or Part 265.

(g) Each petition must include the following statement signed by the petitioner or an authorized representative:

> I certify under penalty of law that I have personally examined and am familiar with the information submitted in this petition and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(h) After receiving a petition, the Administrator may request any additional information that reasonably may be required to evaluate the demonstration.

(i) If approved, the petition will apply to land disposal of the specific restricted waste at the individual disposal unit described in the demonstration and will not apply to any other restricted waste at that disposal unit, or to that specific restricted waste at any other disposal unit.

(j) The Administrator will give public notice in the FEDERAL REGISTER of the intent to approve or deny a petition and provide an opportunity for public comment. The final decision on a petition will be published in the FEDERAL REGISTER.

(k) The term of a petition granted under this section shall be no longer than the term of the RCRA permit if the disposal unit is operating under a RCRA permit, or up to a maximum of 10 years from the date of approval provided under paragraph (g) of this section if the unit is operating under interim status. In either case, the term of the granted petition shall expire upon the termination or denial of a RCRA permit, or upon the termination of interim status or when the volume limit of waste to be land disposed during the term of petition is reached.

(l) Prior to the Administrator's decision, the applicant is required to comply with all restrictions on land disposal under this part once the effective date for the waste has been reached.

(m) The petition granted by the Administrator does not relieve the petitioner of his responsibilities in the management of hazardous waste under 40 CFR Part 260 through Part 271.

(n) Liquid hazardous wastes containing polychlorinated biphenyls at concentrations greater than or equal to 500 ppm are not eligible for an exemption under this section.

(Approved by the Office of Management and Budget under control number 2050-0062)

[51 FR 40638, Nov. 7, 1986; 52 FR 21016, June 4, 1987, as amended at 52 FR 25789, July 8, 1987; 53 FR 31212, Aug. 17, 1988; 54 FR 36971, Sept. 6, 1989]

§ 268.7 Waste analysis.

(a) Except as specified in § 268.32 or section 268.43 of the part, the generator must test his waste, or test an extract developed using the test method described in Appendix I of this part, or use knowledge of the waste, to determine if the waste is restricted from land disposal under this part.

(1) If a generator determines that he is managing a restricted waste under this part and the waste does not meet the applicable treatment standards set forth in Subpart D of this part or exceeds the applicable prohibition levels set forth in § 268.32 or RCRA § 3004(d), with each shipment of waste the generator must notify the treatment or storage facility in writing of the appropriate treatment standards set forth in Subpart D of this part and any applicable prohibition levels set forth in § 268.32 or RCRA § 3004(d). The notice must include the following information:

(i) EPA Hazardous Waste Number;

(ii) The corresponding treatment standards for wastes F001-F005, F039, and wastes prohibited pursuant to § 268.32 or RCRA Section 3004(d). Treatment standards for all other restricted wastes may be referenced by including on the notification the subcategory of the waste, the treatability group(s) of the waste(s), and the CFR section(s) and paragraphs where the treatment standards appear. Where the applicable treatment standards are expressed as specified technologies in § 268.42, the applicable five-letter treatment code found in Table 1 of § 268.42 (*e.g.*, INCIN, WETOX) also must be listed on the notification.

(iii) The manifest number associated with the shipment of waste; and

(iv) Waste analysis data, where available.

(2) If a generator determines that he is managing a restricted waste under this part, and determines that the waste can be land disposed without further treatment, with each shipment of waste he must submit, to the treatment, storage, or land disposal facility, a notice and a certification stating that the waste meets the applicable treatment standards set forth in Subpart D of this part and the applicable prohibition levels set forth in § 268.32 or RCRA § 3004(d).

(i) The notice must include the following information:

(A) EPA Hazardous Waste Number;

(B) The corresponding treatment standards for wastes F001-F005, F039, and wastes prohibited pursuant to § 268.32 or RCRA Section 3004(d). Treatment standards for all other restricted wastes may be referenced by including on the notification the subcategory of the waste, the treatability group(s) of the waste(s), and the CFR section(s) and paragraphs where the treatment standards appear. Where the applicable treatment standards are expressed as specified technologies in § 268.42, the applicable five-letter treatment code found in Table 1

§ 268.42 (*e.g.*, INCIN, WETOX) also must be listed on the notification.

(C) The manifest number associated with the shipment of waste;

(D) Waste analysis data, where available.

(ii) The certification must be signed by an authorized representative and must state the following:

> I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR Part 268 Subpart D and all applicable prohibitions set forth in 40 CFR 268.32 or RCRA section 3004(d). I believe that the information I submitted is true, accurate and complete. I am aware that there are significant penalties for submitting a false certification, including the possiblity of a fine and imprisonment.

(3) If a generator's waste is subject to an exemption from a prohibition on the type of land disposal method utilized for the waste (such as, but not limited to, a case-by-case extension under § 268.5, an exemption under § 268.6, or a nationwide capacity variance under subpart C), with each shipment of waste he must submit a notice to the facility receiving his waste stating that the waste is not prohibited from land disposal. The notice must include the following information:

(i) EPA Hazardous Waste Number;

(ii) The corresponding treatment standards for wastes F001-F005, F039, and wastes prohibited pursuant to § 268.32 or RCRA section 3004(d). Treatment standards for all other restricted wastes may be referenced by including on the notification the subcategory of the waste, the treatability group(s) of the waste(s), and the CFR section(s) and paragraphs where the treatment standards appear. Where the applicable treatment standards are expressed as specified technologies in § 268.42, the applicable five-letter treatment code found in Table 1 of § 268.42 (*e.g.*, INCIN, WETOX) also must be listed on the notification.

(iii) The manifest number associated with the shipment of waste;

(iv) Waste analysis data, where available; and

(v) The date the waste is subject to the prohibitions.

(4) If a generator is managing a prohibited waste in tanks or containers regulated under 40 CFR 262.34, and is treating such waste in such tanks or containers to meet applicable treatment standards under Subpart D of this part, the generator must develop and follow a written waste analysis plan which describes the procedures the generator will carry out to comply with the treatment standards. The plan must be kept on-site in the generator's records, and the following requirements must be met:

(i) The waste analysis plan must be based on a detailed chemical and physical analysis of a representative sample of the prohibited waste(s) being treated, and contain all information necessary to treat the waste(s) in accordance with the requirements of this Part, including the selected testing frequency.

(ii) Such plan must be filed with the EPA Regional Administrator (or his designated representative) or State authorized to implement Part 268 requirements a minimum of 30 days prior to the treatment activity, with delivery verified.

(iii) Wastes shipped off-site pursuant to this paragraph must comply with the notification requirements of § 268.7(a)(2).

(5) If a generator determines whether the waste is restricted based solely on his knowledge of the waste, all supporting data used to make this determination must be retained on-site in the generator's files. If a generator determines whether the waste is restricted based on testing this waste or an extract developed using the test method described in Appendix I of this part, all waste analysis data must be retained on-site in the generator's files.

(6) Generators must retain on-site a copy of all notices, certifications, demonstrations, waste analysis data, and other documentation produced pursuant to this section for at least five years from the date that the waste that is the subject of such documentation was last sent to on-site or off-site treatment, storage, or disposal. The five year record retention period is automatically extended during the course of any unresolved enforcement

action regarding the regulated activity or as requested by the Administrator.

(7) If a generator is managing a lab pack that contains wastes identified in Appendix IV of this part and wishes to use the alternative treatment standard under § 268.42, with each shipment of waste the generator must submit a notice to the treatment facility in accordance with paragraph (a)(1) of this section. The generator must also comply with the requirements in paragraphs (a)(5) and (a)(6) of this section, and must submit the following certification, which must be signed by an authorized representative:

I certify under penalty of law that I personally have examined and am familiar with the waste and that the lab pack contains only the wastes specified in appendix IV to part 268 or solid wastes not subject to regulation under 40 CFR part 261. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment.

(8) If a generator is managing a lab pack that contains organic wastes specified in Appendix V of this Part and wishes to use the alternate treatment standards under § 268.42, with each shipment of waste the generator must submit a notice to the treatment facility in accordance with paragraph (a)(1) of this section. The generator also must comply with the requirements in paragraphs (a)(5) and (a)(6) of this section, and must submit the following certification which must be signed by an authorized representative:

I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste and that the lab pack contains only organic waste specified in Appendix V to Part 268 or solid wastes not subject to regulation under 40 CFR Part 261. I am aware that there are ignificant penalties for submitting a false ertification, including the possibility of ine or imprisonment.

(9) Small quantity generators with olling agreements pursuant to 40 CFR 262.20(e) must comply with the pplicable notification and certification requirements of paragraph (a) of his section for the initial shipment of he waste subject to the agreement. uch generators must retain on-site a copy of the notification and certification, together with the tolling agreement, for at least three years after termination or expiration of the agreement. The three-year record retention period is automatically extended during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Administrator.

(b) Treatment facilities must test their wastes according to the frequency specified in their waste analysis plans as required by § 264.13 or § 265.13. Such testing must be performed as provided in paragraphs (b)(1), (b)(2) and (b)(3) of this section.

(1) For wastes with treatment standards expressed as concentrations in the waste extract (§ 268.41), the owner or operator of the treatment facility must test the treatment residues, or an extract of such residues developed using the test method described in Appendix I of this part, to assure that the treatment residues or extract meet the applicable treatment standards.

(2) For wastes that are prohibited under § 268.32 of this part or RCRA section 3004(d) but not subject to any treatment standards under Subpart D of this part, the owner or operator of the treatment facility must test the treatment residues according to the generator testing requirements specified in § 268.32 to assure that the treatment residues comply with the applicable prohibitions.

(3) For wastes with treatment standards expressed as concentrations in the waste (§ 268.43), the owner or operator of the treatment facility must test the treatment residues (not an extract of such residues) to assure that the treatment residues meet the applicable treatment standards.

(4) A notice must be sent with each waste shipment to the land disposal facility which includes the following information:

(i) EPA Hazardous Waste Number;

(ii) The corresponding treatment standards for wastes F001-F005, F039, and wastes prohibited pursuant to § 268.32 or RCRA Section 3004(d). Treatment standards for all other restricted wastes may be referenced by including on the notification the subcategory of the waste, the treatability group(s) of the waste(s), and the CFR section(s) and paragraphs where the treatment standards appear. Where the applicable treatment standards are expressed as specified technologies in § 268.42, the applicable five-letter treatment code found in Table 1 of § 268.42 (*e.g.*, INCIN, WETOX) also must be listed on the notification.

(iii) The manifest number associated with the shipment of waste; and

(iv) Waste analysis data, where available.

(5) The treatment facility must submit a certification with each shipment of waste or treatment residue of a restricted waste to the land disposal facility stating that the waste or treatment residue has been treated in compliance with the applicable performance standards specified in Subpart D of this part and the applicable prohibitions set forth in § 268.32 or RCRA section 3004(d).

(i) For wastes with treatment standards expressed as concentrations in the waste extract or in the waste (§ 268.41 or § 268.43), or for wastes prohibited under § 268.32 of this part or RCRA section 3004(d) which are not subject to any treatment standards under Subpart D of this part, the certification must be signed by an authorized representative and must state the following:

> I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and that, based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the performance levels specified in 40 CFR part 268, subpart D, and all applicable prohibitions set forth in 40 CFR 268.32 or RCRA section 3004(d) without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

(ii) For wastes with treatment standards expressed as technologies (§ 268.42), the certification must be signed by an authorized representative and must state the following:

> I certify under penalty of law that the waste has been treated in accordance with the requirements of 40 CFR 268.42. I am
> aware that there are significant penal
> for submitting a false certification, inc
> ing the possibility of fine and imprisonm

(iii) For wastes with treatm
standards expressed as concentrati
in the waste pursuant to § 268.43,
compliance with the treatment sta
ards in subpart D of this part is ba
in part or in whole on the analyti
detection limit alternative specified
§ 268.43(c), the certification also m
state the following:

> I certify under penalty of law that I h
> personally examined and am familiar w
> the treatment technology and operation
> the treatment process used to support t
> certification and that, based on my inqu
> of those individuals immediately responsi
> for obtaining this information, I beli
> that the nonwastewater organic consti
> ents have been treated by incineration
> units operated in accordance with 40 C
> part 264, subpart O) or 40 CFR part 2
> subpart O, or by combustion in fuel subs
> tution units operating in accordance wi
> applicable technical requirements, and
> have been unable to detect the no
> wastewater organic constituents despi
> having used best good faith efforts to an
> lyze for such constituents. I am aware th
> there are significant penalties for submi
> ting a false certification, including the pos
> bility of fine and imprisonment.

(6) If the waste or treatment residu
will be further managed at a differen
treatment or storage facility, th
treatment, storage or disposal facilit
sending the waste or treatment res
due off-site must comply with th
notice and certification requirement
applicable to generators under thi
section.

(7) Where the wastes are recyclable materials used in a manner constituting disposal subject to the provisions of § 266.20(b) regarding treatment standards and prohibition levels, the owner or operator of a treatment facility (*i.e.*, the recycler) is not required to notify the receiving facility, pursuant to paragraph (b)(4) of this section. With each shipment of such wastes the owner or operator of the recycling facility must submit a certification described in paragraph (b)(5) of this section, and a notice which includes the information listed in paragraph (b)(4) of this section (except the manifest number) to the Regional Administrator, or his delegated representative.

The recycling facility also must keep records of the name and location of each entity receiving the hazardous waste-derived product.

(c) Except where the owner or operator is disposing of any waste that is a recyclable material used in a manner constituting disposal pursuant to 40 CFR 266.20(b), the owner or operator of any land disposal facility disposing any waste subject to restrictions under this part must:

(1) Have copies of the notice and certifications specified in paragraph (a) or (b) of this section, and the certification specified in § 268.8 if applicable.

(2) Test the waste, or an extract of the waste or treatment residue developed using the test method described in Appendix I of this part or using any methods required by generators under § 268.32 of this part, to assure that the wastes or treatment residues are in compliance with the applicable treatment standards set forth in Subpart D of this part and all applicable prohibitions set forth in § 268.32 of this part or in RCRA section 3004(d). Such testing must be performed according to the frequency specified in the facility's waste analysis plan as required by § 264.13 or § 265.13.

(Approved by the Office of Management and Budget under control number 2050-0062 and 2040-0042)

[51 FR 40638, Nov. 7, 1986; 52 FR 21016, June 4, 1987, as amended at 52 FR 25789, July 8, 1987; 53 FR 31213, Aug. 17, 1988; 54 FR 26648, June 23, 1989; 54 FR 36971, Sept. 6, 1989; 55 FR 22687, June 1, 1990; 55 FR 23935, June 13, 1990]

§ 268.8 Landfill and surface impoundment disposal restrictions.

(a) Prior to May 8, 1990, wastes which are otherwise prohibited from land disposal under § 268.33(f) of this part may be disposed in a landfill or surface impoundment which is in compliance with the requirements of § 268.5(h)(2) provided that the requirements of this section are met. As of May 8, 1990, this section is no longer in effect.

(1) Prior to such disposal, the generator has made a good faith effort to locate and contract with treatment and recovery facilities practically available which provide the greatest environmental benefit.

(2) If a generator determines that there is no practically available treatment for his waste, he must fulfill the following specific requirements:

(i) Prior to the initial shipment of waste, the generator must submit a demonstration to the Regional Administrator that includes: a list of facilities and facility officials contacted, addresses, telephone numbers, and contact dates, as well as a written discussion of why he was not able to obtain treatment or recovery for that waste. The generator must also provide to the Regional Administrator the following certification:

> I certify under penalty of law that the requirements of 40 CFR 268.8(a)(1) have been met and that disposal in a landfill or surface impoundment is the only practical alternative to treatment currently available. I believe that the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

The generator does not need to wait for Regional Administrator approval of the demonstration/certification before shipment of the waste. However, if the Regional Administrator invalidates the demonstration/certification for the reasons outlined in § 268.8(b)(2), the generator must immediately cease further shipments of the waste, and immediately inform all facilities that received the waste of such invalidation, and keep records of such communication on-site in his files.

(ii) With the initial shipment of waste, the generator must submit a copy of the demonstration and the certification discussed above in § 268.8(a)(2)(i) to the receiving facility. With each subsequent waste shipment, only the certification is required to be submitted provided that the conditions being certified remain unchanged. Such a generator must retain on-site a copy of the demonstration (if applicable) and certification required for each waste shipment for at least five years from the date that the waste that is the subject of such documentation was last sent to on-site or off-site disposal. The five-year record retention requirement is automatically extended during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Administrator.

(3) If a generator determines that there are practically available treatments for his waste, he must contract to use the practically available technology that yields the greatest environmental benefit. He must also fulfill the following specific requirements:

(i) The generator must submit to the Regional Administrator, prior to the initial shipment of waste, a demonstration that includes: a list of facilities and facility officials contacted, addresses, telephone numbers, and contact dates, as well as a written discussion explaining why the treatment or recovery technology chosen provides the greatest environmental benefit. The generator must also provide to the Regional Administrator the following certification:

> I certify under penalty of law that the requirements of 40 CFR 268.8(a)(1) have been met and that I have contracted to treat my waste (or otherwise provide treatment) by the practically available technology which yields the greatest environmental benefit, as indicated in my demonstration. I believe that the information submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

The generator does not need to wait for Regional Administrator approval of the demonstration/certification before shipment of the waste.

(ii) With the initial shipment of waste, the generator must submit to the receiving facility a copy of the demonstration and the certification discussed above in § 268.8(a)(3)(i). With each subsequent waste shipment, only the certification is required to be submitted provided that the conditions being certified remain unchanged. Such a generator must retain on-site a copy of the demonstration (if applicable) and certification required for each waste shipment for at least five years from the date that the waste that is the subject of such documentation was last sent to on-site or off-site disposal. The five-year record retention requirement is automatically extended during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Administrator.

(4) Where the generator has determined that there is practically available treatment for his waste prior to disposal, with the initial shipment of waste, such generator must submit a copy of the demonstration and the certification required in paragraph (a)(2)(B) of this section to the receiving facility. With each subsequent waste shipment, only the certification is required to be submitted provided that the conditions being certified remain unchanged. Such a generator must retain on-site a copy of the demonstration (if applicable) and certification required for each waste shipment for at least five years from the date that the waste that is the subject of such documentation was last sent to on-site or off-site disposal. The five-year record retention requirement is automatically extended during the course of any unresolved enforcement action regarding the regulated activity or as requested by the Administrator.

(b) After receiving the demonstration and certification, the Regional Administrator may request any additional information which he deems necessary to evaluate the certification and submit a new demonstration and certification as provided in § 268.8(a) to the receiving facility.

(1) A generator who has submitted a certification under this section must immediately notify the Regional Administrator when he has knowledge of any change in the conditions which formed the basis of his certification.

(2) If, after review of the certification, the Regional Administrator determines that practically available treatment exists where the generator has certified otherwise, or that there exists some other method of practically available treatment yielding greater environmental benefit than that which the generator has certified, the Regional Administrator may invalidate the certification.

(3) If the Regional Administrator invalidates a certification, the generator must immediately cease further shipments of the waste, and inform all facilities that received the waste of such invalidation and keep records of such communication on-site in his files.

(c) A treatment, recovery or storage facility receiving wastes subject to a valid certification must keep copies of the generator's demonstration (if applicable) and certification in his operating record.

(1) The owner or operator of a treatment or recovery facility must certify that he has treated the waste in accordance with the generator's demonstration. The following certification is required:

I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and that, based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with treatment as specified in the generator's demonstration. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

(2) The owner or operator of a treatment, recovery or storage facility must, for each initial shipment of waste, send a copy of the generator's demonstration (if applicable) and certification under § 268.8(a)(2)(i) or § 268.8(a)(3)(i) and certification under § 268.8(c)(1) (if applicable) to the facilty receiving the waste or treatment esidues. With each subsequent waste hipment, only the certification is reuired to be submitted provided that he conditions being certified remain nchanged.

(d) The owner or operator of a disosal facility must ensure that those wastes prohibited under § 268.33(f) are ubject to a certification according to he requirements of this section prior o disposal in a landfill or surface imoundment, and that the units receivg such wastes must meet the miniium technological requirements of 268.5(h)(2).

(e) Once the certification is received y the Regional Administrator, and ovided that the wastes have been eated by the treatment (if any), dermined by the generator to yield the eatest environmental benefit practilly available, the wastes or treatent residuals may be disposed in a ndfill or surface impoundment unit eeting the requirements of § 268.5(h)(2), unless otherwise prohibited by the Regional Administrator.

(Approved by the Office of Management and Budget under control number 2050-0085)

[53 FR 31214, Aug. 17, 1988, as amended at 54 FR 36971, Sept. 6, 1989; 55 FR 22688, June 1, 1990; 55 FR 23935, June 13, 1990]

§268.9 Special rules regarding wastes that exhibit a characteristic.

(a) The initial generator of a solid waste must determine each waste code applicable to the waste in order to determine the applicable treatment standards under subpart D of this part. For purposes of part 268, the waste will carry a waste code designation for any applicable listing under 40 CFR part 261, subpart D, and also one or more waste code designations under 40 CFR part 261, subpart C where the waste exhibits the relevant characteristic.

(b) Where a prohibited waste is both listed under 40 CFR part 261, subpart D and exhibits a characteristic under 40 CFR part 261, subpart C, the treatment standard for the waste code listed in 40 CFR part 261, subpart D will operate in lieu of the standard for the waste code under 40 CFR part 261, subpart C, provided that the treatment standard for the listed waste includes a treatment standard for the constituent th[illegible] causes the waste to exhibit the characteristic. Otherwise, the waste must meet the treatment standards for all applicable listed and characteristic waste codes.

(c) In addition to any applicable standards determined from the initial point of generation, no prohibited waste which exhibits a characteristic under 40 CFR part 261, subpart C may be land disposed unless the waste complies with the treatment standards under subpart D of this part.

(d) Wastes that exhibit a characteristic are also subject to § 268.7 requirements, except that once the waste is no longer hazardous, for each shipment of such wastes to a subtitle D facility the initial generator or the treatment facility need not send a § 268.7 notification to such facility. In such circumstances, a notification and certification must be sent to the appropriate EPA Regional Administrator (or his delegated representative) or State authorized to implement part 268 requirements.

(1) The notification must include the following information:

(i) The name and address of the subtitle D facility receiving the waste shipment;

(ii) A description of the waste as initially generated, including the applicable EPA Hazardous Waste Number(s) and treatability group(s);

(iii) The treatment standards applicable to the waste at the initial point of generation.

(2) The certification must be signed by an authorized representative and must state the language found in § 268.7(b)(5)(i).

[55 FR 22688, June 1, 1990]

Subpart B—Schedule for Land Disposal Prohibition and Establishment of Treatment Standards

SOURCE: 51 FR 19305, May 28, 1986, unless otherwise noted.

§ 268.10 Identification of wastes to be evaluated by August 8, 1988.

EPA will take action under sections 3004(g)(5) and 3004(m), of the Resource Conservation and Recovery Act, by August 8, 1988, for the following wastes (for ease of understanding the wastes have been listed by the section of 40 CFR Part 261 under which they were listed):

§ 261.31 Wastes

F006—Wastewater treatment sludges from electroplating operations except from the following processes: (1) Sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.

F007—Spent cyanide plating bath solutions from electroplating operations.

F008—Plating bath sludges from the bottom of plating baths from electroplating operations where cyanides are used in the process.

F009—Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.

F019—Wastewater treatment sludges fr the chemical conversion coating of alu num.

§ 261.32 Wastes

K001—Bottom sediment sludge from th treatment of wastewaters from wood pr serving processes that use creosote and/o pentachlorophenol.

K004—Wastewater treatment sludge from the production of zinc yellow pigments.

K008—Over residue from the production o chrome oxide green pigments.

K011—Bottom stream from the wastewate stripper in the production of acrylonitrile.

K013—Bottom stream from the acetonitrile column in the production of acrylonitrile.

K014—Bottoms from the acetonitrile purification column in the production of acrylonitrile.

K015—Still bottoms from the distillation of benzyl chloride.

K016—Heavy ends or distillation residues from the production of carbon tetrachloride.

K017—Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin.

K018—Heavy ends from the fractionatio column in ethyl chloride production.

K020—Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production.

K021—Aqueous spent antimony catalyst waste from fluoromethanes production.

K022—Distillation bottom tars from the production of phenol/acetone from cumane.

K024—Distillation bottoms from the production of phthalic anhydride from naphthalene.

K030—Column bottom or heavy ends from the combined production of trichloroethylene and perchloroethylene.

K031—By-products salts generated in the production of MSMA and cacodylic acid.

K035—Wastewater treatment sludges generated in the production of creosote.

K036—Still bottoms from toluene reclamation distillation in the production of disulfoton.

K037—Wastewater treatment sludge from the production of disulfoton.

K044—Wastewater treatment sludges from the manufacturing and processing of explosives.

K045—Spent carbon from the treatment of wastewater containing explosives.

K046—Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds.

K047—Pink/red water from TNT operations.

K048—Dissolved air flotation (DAF) float from the petroleum refining industry.

K049—Stop oil emulsion solids from the petroleum refining industry.

K050—Heat exchange bundle cleaning sludge from the petroleum refining industry.

K051—API separator sludge from the petroleum refining industry.

K052—Tank bottoms (leaded) from the petroleum refining industry.

K060—Ammonia still lime sludge from coking operations.

K061—Emission control dust/sludge from the primary production of steel in electric furnaces.

K062—Spent pickle liquor from steel finishing operations in chlorine production.

K069—Emission control dust/sludge from secondary lead smelting.

K071—Brine purification muds from the mercury cells process in chlorine production, where separately prepurified brine is not used.

K073—Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes

K083—Distillation bottoms from aniline production.

K084—Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.

K085—Distillation of fractionation column bottoms from the production of chlorobenzenes.

K086—Solvent washes and sludges; caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead.

K087—Decanter tank tar sludge from coking operations.

K099—Untreated wastewater from the production of 2,4-D.

K101—Distillation tar residues from the distillation of aniline-based compounds in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.

K102—Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.

K103—Process residues from aniline extraction from the production of aniline.

K104—Combined wastewater streams generated from nitrobenzene/aniline production.

106—Waste water treatment sludge from the mercury cell process in chlorine production.

§ *261.33(e) Wastes*

001—Warfarin, when present at concentration greater than 0.3%
004—Aldrin
005—Allyl alcohol
P010—Arsenic acid
P011—Arsenic (V) oxide
P012—Arsenic (III) oxide
P015—Beryllium dust
P016—Bis-(chloromethyl) ether
P018—Brucine
P020—Dinoseb
P030—Soluble cyanide salts not elsewhere specified
P036—Dichlorophenylarsine
P037—Dieldrin
P039—Disulfoton
P041—Diethyl-p-nitrophenyl phosphate
P048—2,4-Dinitrophenol
P050—Endosulfan
P058—Fluoracetic acid, sodium salt
P059—Heptachlor
P063—Hydrogen cyanide
P068—Methyl Hydrazine
P069—Methyllactonitrile
P070—Aldicarb
P071—Methyl parathion
P081—Nitroglycerine
P082—N-Nitrosodimethylamine
P084—N-Nitrosomethylvinylamine
P087—Osmium tetraoxide
P089—Parathion
P092—Phenylmercuric acetate
P094—Phorate
P097—Famphur
P102—Propargyl alcohol
P105—Sodium azide
P108—Strychnine and salts
P110—Tetraethyl lead
P115—Thallium (I) sulfate
P120—Vanadium pentoxide
P122—Zinc phosphide, when present at concentrations greater than 10%
P123—Toxaphene

§ *261.33(f) Wastes*

U007—Acrylamide
U009—Acrylonitrile
U010—Mitomycin C
U012—Aniline
U016—Benz(c)acridine
U018—Benz(a)anthracene
U019—Benzene
U022—Benzo(a)pyrene
U029—Methyl bromide
U031—n-Butanol
U036—Chlordane, technical
U037—Chlorobenzene
U041—n-Chloro-2,3-epoxypropane
U043—Vinyl chloride
U044—Chloroform
U046—Chloromethyl methyl ether
U050—Chrysene
U051—Creosote
U053—Crotonaldehyde
U061—DDT
U063—Dibenz o (a, h) anthracene
U064—1,2:7,8 Dibenzopyrene
U066—Dibromo-3-chloropropane 1,2-
U067—Ethylene dibromide
U074—1,4-Dichloro-2-butene

U077—Ethane, 1,2-dichloro-
U078—Dichloroethylene, 1,1-
U086—N,N Diethylhydrazine
U089—Diethylstilbestrol
U103—Dimethyl sulfate
U105—2,4-Dinitrotoluene
U108—Dioxane, 1,4-
U115—Ethylene oxide
U122—Formaldehyde
U124—Furan
U129—Lindane
U130—Hexachlorocyclopentadiene
U133—Hydrazine
U134—Hydrofluoric acid
U137—Indeno(1,2,3-cd)pyrene
U151—Mecury
U154—Methanol
U155—Methapyrilene
U157—3-Methylcholanthrene
U158—4,4-Methylene-bis-(2-chloroaniline)
U159—Methyl ethyl ketone
U171—Nitropropane, 2-
U177—N-Nitroso-N-methylurea
U180—N-Nitrosopyrrolidine
U185—Pentachloronitrobenzene
U188—Phenol
U192—Pronamide
U200—Reserpine
U209—Tetrachloroethane, 1,1,2,2-
U210—Tetrachloroethylene
U211—Carbon tetrachloride
U219—Thiourea
U220—Toluene
U221—Toluenediamine
U223—Toluene diisocyanate
U226—Methylchloroform
U227—Trichloroethane, 1,1,2-
U228—Trichloroethylene
U237—Uracil mustard
U238—Ethyl carbamate
U248—Warfarin, when present at concentrations of 0.3% or less
U249—Zinc phosphide, when present at concentrations of 10% or less

§ 268.11 Identification of wastes to be evaluated by June 8, 1989.

EPA will take action under sections 3004(g)(5) and 3004(m) of the Resource Conservation and Recovery Act, by June 8, 1989, for the following wastes (for ease of understanding the wastes have been listed by the section of 40 CFR Part 261 under which they were listed):

§ 261.31 Wastes

F010—Quenching bath sludge from oil baths from metal heat treating operations where cyanides are used in the process.

F011—Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.

F012—Quenching wastewater trea
sludges from metal heat operations
cyanides are used in the process.

F024—Wastes including but not limit
distillation residues, heavy ends, ta
reactor clean-out wastes from the p
tion of chlorinated aliphatic hyd
bons, having carbon content from
five, utilizing free radical catalyzed
esses. [This listing does not include
ends, spent filters and filter aids,
desiccants, wastewater, wastewater
ment sludges, spent catalysts, and
listed in § 261.32.].

§ 261.32 Wastes

K009—Distillation bottoms from the
duction of acetaldehyde from ethylen

K010—Distillation side cuts from the
ductions of acetaldehyde from ethyle

K019—Heavy ends from the distillatio
ethylene dichloride in ethylene dichl
production.

K025—Distillation bottoms from the
duction of nitrobenzene by the nitr
of benzene.

K027—Centrifuge and distillation resi
from toluene diisocyanate production.

K028—Spent catalyst from the hydroch
inator reactor in the production of
trichloroethane.

K029—Waste from the product steam
per in the production of 1,1,1-trichloro
ane.

K038—Wastewater from the washing
stripping of phorate production.

K039—Filter cake from the filtration
diethylphosphoro-dithioic acid in the
duction of phorate.

K040—Wastewater treatment sludge f
the production of phorate.

K041—Wastewater treatment sludge f
the production of toxaphene.

K042—Heavy ends or distillation resid
from the distillation of tetrachlorob
zene in the production of 2,4,5-T.

K043—2,6-Dichlorophenol waste from
production of 2,4-D.

K095—Distillation bottoms from the
duction of 1,1,1-trichloroethane.

K096—Heavy ends from the heavy e
column from the production of 1,1,1-tric
loroethane.

K097—Vacuum stripper discharge from
chlordane chlorinator in the production
chlordane.

K098—Untreated process wastewater fr
the production of toxaphene.

K105—Separated aqueous stream from
reactor product washing step in the p
duction of chlorobenzenes.

§ 261.33(e) Wastes

P002—1-Acetyl-2-thiourea
P003—Acrolein

P007—5-(Aminoethyl)-3-isoxazolol
P008—4-Aminopyridine
P014—Thiophenol
P026—1-(o-Chlorophenyl)thiourea
P027—Propanenitrile, 3-chloro
P029—Copper cyanides
P040—O,O-Diethyl o-pyrazinyl phosphorothioate
P043—Diisopropyl fluorophosphate
P044—Dimethoate
P049—2,4-Dithiobiuret
P054—Aziridine
P057—Fluoracetamide
P060—Isodrin
P062—Hexaethyltetraphosphate
P066—Methomyl
P067—2-Methylaziridine
P072—Alpha-naphthylthiourea (ANTU)
P074—Nickel cyanide
P085—Octamethylpyrophosphoramide
P098—Potassium cyanide
P104—Silver cyanide
P106—Sodium cyanide
P107—Strontium sulfide
P111—Tetraethylpyrophosphate
P112—Tetranitromethane
P113—Thallic oxide
P114—Thallium (I) selenite

§ 261.33(f) Wastes

U002—Acetone
U003—Acetonitrile
U005—o-Acetylaminofluorene
U008—Acrylic acid
U011—Amitrole
U014—Auramine
U015—Azaserine
U020—Benzenesulfonyl chloride
U021—Benzidine
U023—Benzotrichloride
U025—Dichloroethyl ether
U026—Chlornaphazine
U028—Bis-(2-ethylhexyl)phthalate
U032—Calcium chromate
U035—Chlorambucil
U047—Beta-chloronaphthalene
U049—4-Chloro-o-toluidine, hydrochloride
U057—Cyclohexanone
U058—Cyclophosphamide
U059—Daunomycin
U060—DDD
U062—Diallate
U070—o-Dichlorobenzene
U073—Dichlorobenzidene, 3,3-
U080—Methylene chloride
U083—Dichloropropane, 1,2-
U092—Dimethylamine
U093—Dimethylaminoazobenzene
U094—Dimethylbenz(a)anthracene,7,12-
U095—Dimethylbenzidine,3,3'-
U097—Dimethylcarbamoyl chloride
U098—Dimethylhydrazine, 1,1-
U099—Dimethylhydrazine, 1,2-
U101—Dimethylphenol, 2,4-
U106—Dinitrotoluene, 2,6-
U107—Di-n-octyl phthalate
U109—1,2,-Diphenylhydrazine
U110—Dipropylamine
U111—Di-N-Propylnitrosamine
U114—Ethylenebis-(dithiocarbamic acid)
U116—Ethylene thiourea
U119—Ethyl methanesulfonate
U127—Hexachlorobenzene
U128—Hexachlorobutadiene
U131—Hexachloroethane
U135—Hydrogen sulfide
U138—Methyl iodide
U140—Isobutyl alcohol
U142—Kepone
U143—Lasiocarpine
U144—Lead acetate
U146—Lead subacetate
U147—Maleic anhydride
U149—Malononitrile
U150—Melphalan
U161—Methyl isobutyl ketone
U162—Methyl methacrylate
U163—N-Methyl-N-nitro-N-nitrosoguanidine
U164—Methylthiouracil
U165—Naphthalene
U168—Napthylamine, 2-
U169—Nitrobenzene
U170—p-Nitrophenol
U172—N-Nitroso-di-n-butylamine
U173—N-Nitroso-diethanolamine
U174—N-Nitroso-diethylamine
U176—N-Nitroso-N-ethylurea
U178—N-Nitroso-N-methylurethane
U179—N-Nitrosopiperidine
U189—Phosphorus sulfide
U193—1,3-Propane sultone
U196—Pyridine
U203—Safrole
U205—Selenium disulfide
U206—Streptozotocin
U208—Terachloroethane, 1,1,1,2-
U213—Tetrahydrofuran
U214—Thallium (I) acetate
U215—Thallium (I) carbonate
U216—Thallium (I) chloride
U217—Thallium (I) nitrate
U218—Thioacetamide
U235—Tris (2,3-Dibromopropyl) phosphate
U239—Xylene
U244—Thiram

§ 268.12 Identification of wastes to be evaluated by May 8, 1990.

(a) EPA will take action under sections 3004(g)(5) and 3004(m) of the Resource Conservation and Recovery Act, by May 8, 1990, for the following wastes (for ease of understanding, the wastes have been listed by the section of 40 CFR Part 261 under which they were listed):

§ 261.32 Wastes

K002—Wastewater treatment sludge from the production of chrome yellow and orange pigments.

K003—Wastewater treatment sludge from the production of molybdate orange pigments.

K005—Wastewater treatment sludge from the production of chrome green pigments.

K006—Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated).

K007—Wastewater treatment sludge from the production of iron blue pigments.

K023—Distillation light ends from the production of phthalic anhydride from naphthalene.

K026—Stripping still tails from the production of methyl ethyl pyridines.

K032—Wastewater treatment sludge from the production of chlordane.

K033—Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane.

K034—Filter solids from the hexachlorocyclopentadiene in the production of chlordane.

K093—Distillation light ends from the production of phthalic anhydride from orthoxylene.

K094—Distillation bottoms from the production of phthalic anhydride from orthoxylene.

K100—Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.

§ 261.33(e) Wastes

P006—Aluminum phosphide
P009—Ammonium picrate
P013—Barium cyanide
P017—Bromoacetone
P021—Calcium cyanide
P022—Carbon disulfide
P023—Chloroacetaldehyde
P024—p-Chloroaniline
P028—Benzyl chloride
P031—Cyanogen
P033—Cyanogen chloride
P034—4,6-Dinitro-o-cyclohexylphenol
P038—Diethylarsine
P042—Epinephrine
P045—Thiofanox
P046—Alpha, alpha-Dimethylphenethylamine
P047—4,6-Dinitro-o-cresol and salts
P051—Endrin
P056—Fluorine
P064—Methyl isocyanate
P065—Mercury fulminate
P073—Nickel carbonyl
P075—Nicotine and salts
P076—Nitric oxide
P077—p-Nitroaniline
P078—Nitrogen dioxide
P088—Endothall
P093—N-Phenylthiourea
P095—Phosgene
P096—Phosphine
P099—Potassium silver cyanide
P101—Propanenitrile
P103—Selenourea
P109—Tetraethyldithiopyrophosphat
P116—Thiosemicarbazide
P118—Trichloromethanethiol
P119—Ammonium vanadate
P121—Zinc cyanide

§ 261.33(f) Wastes

U001—Acetaldehyde
U004—Acetophenone
U006—Acetyl chloride
U017—Benzal chloride
U024—Bis(2-chloroethoxy)methane
U027—Bis(2-chloroisopropyl)ether
U030—Benzene, 1-bromo-4-phenoxy
U033—Carbonyl fluoride
U034—Chloral
U038—Ethyl-4-4′-dichlorobenzilate
U039—4-Chloro-m-cresol
U042—Vinyl ether, 2-chloroethyl
U045—Methyl chloride
U048—o-Chlorophenol
U052—Cresols
U055—Cumene
U056—Cyclohexane
U068—Methane, dibromo
U069—Dibutyl phthalate
U071—m-Dichlorobenzene
U072—p-Dichlorobenzene
U075—Dichlorodifluoromethane
U076—Ethane, 1,1-dichloro-
U079—1,2-Dichlorethylene
U081—2,4-Dichlorophenol
U082—2,6-Dichlorophenol
U084—1,3-Dichloropropene
U085—2,2′-Bioxirane
U087—0,0,-Diethyl-S-methyl-dithiophosphate
U088—Diethyl phthalate
U090—Dihydrosafrole
U091—3,3′-Dimethoxybenzidine
U096—alpha,alpha-Dimethylbenzylhydroxyperoxide
U102—Dimethyl phthalate
U112—Ethyl acetate
U113—Ethyl acrylate
U117—Ethyl ether
U118—Ethylmethacrylate
U120—Fluoranthene
U121—Trichloromonofluoromethane
U123—Formic acid
U125—Furfural
U126—Glycidylaldehyde
U132—Hexachlorophene
U136—Cacodylic acid
U139—Iron dextran
U141—Isosafrole
U145—Lead phosphate
U148—Maleic hydrazide
U152—Methacrylonitrile
U153—Methanethiol
U156—Methyl chlorocarbonate
U160—Methyl ethyl ketone peroxide
U166—1,4-Naphthaquinone
U167—1-Naphthylamine
U181—5-Nitro-o-toluidine

U182—Paraldehyde
U183—Pentachlorobenzene
U184—Pentachloroethane
U186—1,3-Pentadiene
U187—Phenacetin
U190—Phthalic anhydride
U191—2-Picoline
U194—1-Propanamine
U197—p-Benzoquinone
U201—Resorcinol
U202—Saccharin and salts
U204—Selenious acid
U207—1,2,4,5-tetrachlorobenzene
U222—o-Toluidine hydrochloride
U225—Bromoform
U234—Sym-Trinitrobenzene
U236—Trypan blue
U240—2,4-D, salts and esters
U243—Hexachloropropene
U246—Cyanogen bromide
U247—Methoxychlor

Wastes identified as hazardous based on a characteristic alone (i.e., corrosivity, reactivity, ignitability and EP toxicity).

(b) Wastewater residues (less than 1% total organic carbon and less than 1% total suspended solids) resulting from the following well-designed and well-operated treatment methods for wastes listed in §§ 268.10 and 268.11 for which EPA has not promulgated wastewater treatment standards: metals recovery, metals precipitation, cyanide destruction, carbon adsorption, chemical oxidation, steam stripping, biodegradation, and incineration or other direct thermal destruction.

(c) Hazardous wastes listed in §§ 268.10 and 268.11 that are mixed hazardous/radioactive wastes.

(d) Multi-source leachate that is derived from disposal of any listed waste, except from Hazardous Wastes F020, F021, F022, F023, F026, F027, or F028.

(e) Nonwastewater forms of wastes listed in § 268.10 that were originally disposed before August 17, 1988 and for which EPA has promulgated "no land disposal" as the treatment standard (§ 268.43, Table CCW, No Land Disposal Subtable). This provision does not apply to waste codes K044, K045, K047, and K061 (high zinc subcategory).

(f) Nonwastewater forms of wastes listed in § 268.10 for which EPA has promulgated "no land disposal" as the treatment standard (§ 268.43, Table CCW, No Land Disposal Subtable) that are generated in the course of treating wastewater forms of the wastes. This provision does not apply to waste codes K044, K045, K047, and K061 (high zinc subcategory).

(g) Nonwastewater forms of waste codes K015 and K083.

[51 FR 19305, May 28, 1986, as amended at 53 FR 31215, Aug. 17, 1988; 54 FR 8266, Feb. 27, 1989; 54 FR 18837, May 2, 1989; 54 FR 26648, June 23, 1989]

§ 268.13 Schedule for wastes identified or listed after November 8, 1984.

In the case of any hazardous waste identified or listed under section 3001 after November 8, 1984, the Administrator shall make a land disposal prohibition determination within 6 months after the date of identification or listing.

Subpart C—Prohibitions on Land Disposal

§ 268.30 Waste specific prohibitions—Solvent wastes.

(a) Effective November 8, 1986, the spent solvent wastes specified in 40 CFR 261.31 as EPA Hazardous Waste Nos. F001, F002, F003, F004, and F005, are prohibited under this part from land disposal (except in an injection well) unless one or more of the following conditions apply:

(1) The generator of the solvent waste is a small quantity generator of 100-1000 kilograms of hazardous waste per month; or

(2) The solvent waste is generated from any response action taken under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) or any corrective action taken under the Resource Conservation and Recovery Act (RCRA), except where the waste is contaminated soil or debris; or

(3) The initial generator's solvent waste is a solventwater mixture, solvent-containing sludge or solid, or solventcontaminated soil (non-CERCLA or RCRA corrective action) containing less than 1 percent total F001-F005 solvent constituents listed in Table CCWE of § 268.41 of this part; or

(4) The solvent waste is a residue from treating a waste described in

paragraphs (a)(1), (a)(2), or (a)(3) of this section; or the solvent waste is a residue from treating a waste not described in paragraphs (a)(1), (a)(2), or (a)(3) of this section provided such residue belongs to a different treatability group than the waste as initially generated and wastes belonging to such a treatability group are described in paragraph (a)(3) of this section.

(b) Effective November 8, 1988, the F001-F005 solvent wastes listed in paragraphs (a) (1), (2), (3), or (4) of this section are prohibited from land disposal.

(c) Effective November 8, 1990, the F001-F005 solvent wastes which are contaminated soil and debris resulting from a response action taken under section 104 or 106 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) or a corrective action required under subtitle C of the Resource Conservation and Recovery Act (RCRA) and the residues from treating these wastes are prohibited from land disposal. Between November 8, 1988, and November 8, 1990, these wastes may be disposed in a landfill or surface impoundment only if such unit is in compliance with the requirements specified in § 268.5(h)(2).

(d) The requirements of paragraphs (a), (b), and (c) of this section do not apply if:

(1) The wastes meet the standards of Subpart D of this part; or

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under § 268.6, with respect to those wastes and units covered by the petition; or

(3) Persons have been granted an extension to the effective date of a prohibition pursuant to § 268.5, with respect to those wastes and units covered by the extension.

[53 FR 31216, Aug. 17, 1988]

§ 268.31 Waste specific prohibitions—Dioxin-containing wastes.

(a) Effective November 8, 1988, the dioxin-containing wastes specified in 40 CFR 261.31 as EPA Hazardous Waste Nos. F020, F021, F022, F023, F026, F027, and F028, are prohibited from land disposal unless the following condition applies:

(1) The F020-F023 and F026-F0 dioxin-containing waste is contamina ed soil and debris resulting from a r sponse action taken under section 10 or 106 of the Comprehensive Enviro mental Response, Compensation, an Liability Act of 1980 (CERCLA) or corrective action taken under subtitl C of the Resource Conservation an Recovery Act (RCRA).

(b) Effective November 8, 1990, th F020-F023 and F026-F028 dioxin-con taining wastes listed in paragrap (a)(1) of this section are prohibite from land disposal.

(c) Between November 8, 1988, and November 8, 1990, wastes included in paragraph (a)(1) of this section may be disposed in a landfill or surface impoundment only if such unit is in compliance with the requirements specified in § 268.5(h)(2) and all other applicable requirements of Parts 264 and 265 of this chapter.

(d) The requirements of paragraphs (a) and (b) of this section do not apply if:

(1) The wastes meet the standards of Subpart D of this part; or

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under § 268.6, with respect to those wastes and units covered by the petition; or

(3) Persons have been granted an extension to the effective date of a prohibition pursuant to § 268.5, with respect to those wastes covered by the extension.

[53 FR 31216, Aug. 17, 1988]

§ 268.32 Waste specific prohibitions—California list wastes.

(a) Effective July 8, 1987, the following hazardous wastes are prohibited from land disposal (except in injection wells):

(1) Liquid hazardous wastes having a pH less than or equal to two (2.0);

(2) Liquid hazardous wastes containing polychlorinated biphenyls (PCBs) at concentrations greater than or equal to 50 ppm;

(3) Liquid hazardous wastes that are primarily water and contain halogenated organic compounds (HOCs) in total concentration greater than or

equal to 1,000 mg/l and less than 10,000 mg/l HOCs.

(b)—(c) [Reserved]

(d) The requirements of paragraphs (a) and (e) of this section do not apply until:

(1) July 8, 1989 where the wastes are contaminated soil or debris not resulting from a response action taken under section 104 or 106 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or a corrective action taken under Subtitle C of the Resource Conservation and Recovery Act (RCRA). Between July 8, 1987 and July 8, 1989, the wastes may be disposed in a landfill or surface impoundment only if such disposal is in compliance with the requirements specified in § 268.5(h)(2).

(2) November 8, 1990 where the wastes are contaminated soil or debris resulting from a response action taken under section 104 or 106 of CERCLA or a corrective action taken under Subtitle C of RCRA. Between November 8, 1988, and November 8, 1990, the wastes may be disposed in a landfill or surface impoundment only if such unit is in compliance with the requirements specified in § 268.5(h)(2).

(e) Effective November 8, 1988, the following hazardous wastes are prohibited from land disposal (subject to any regulations that may be promulgated with respect to disposal in injection wells):

(1) Liquid hazardous wastes that contain HOCs in total concentration greater than or equal to 1,000 mg/l and are not prohibited under paragraph (a)(3) of this section; and

(2) Nonliquid hazardous wastes containing HOCs in total concentration greater than or equal to 1,000 mg/kg and are not wastes described in paragraph (d) of this section.

(f) Between July 8, 1987 and November 8, 1988, the wastes included in paragraphs (e)(1) and (e)(2) of this section may be disposed in a landfill or surface impoundment only if such unit is in compliance with the requirements specified in § 268.5(h)(2).

(g) The requirements of paragraphs (a), (d), and (e) of this section do not apply if:

(1) Persons have been granted an exemption from a prohibition pursuant to a petition under § 268.6, with respect to those wastes and units covered by the petition (except for liquid hazardous wastes containing polychlorinated biphenyls at concentrations greater than or equal to 500 ppm which are not eligible for such exemptions); or

(2) Persons have been granted an extension to the effective date of a prohibition pursuant to § 268.5, with respect to those wastes covered by the extension; or

(3) The wastes meet the applicable standards specified in Subpart D of this part or, where treatment standards are not specified, the wastes are in compliance with the applicable prohibitions set forth in this section or RCRA section 3004(d).

(h) The prohibitions and effective dates specified in paragraphs (a)(3), (d), and (e) of this section do not apply where the waste is subject to a Part 268 Subpart C prohibition and effective date for a specified HOC (such as a hazardous waste chlorinated solvent, see e.g., § 268.30(a)).

(i) To determine whether or not a waste is a liquid under paragraphs (a) and (e) of this section and under RCRA section 3004(d), the following test must be used: Method 9095 (Paint Filter Liquids Test) as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," EPA Publication No. SW-846. (Incorporated by reference, see § 260.11(a) of this chapter.)

(j) Except as otherwise provided in this paragraph, the waste analysis and recordkeeping requirements of § 268.7 are applicable to wastes prohibited under this part or RCRA section 3004(d):

(1) The initial generator of a liquid hazardous waste must test his waste (not an extract or filtrate) in accordance with the procedures specified in § 261.22(a)(1), or use knowledge of the waste, to determine if the waste has a pH less than or equal to two (2.0). If the liquid waste has a pH less than or equal to two (2.0), it is restricted from land disposal and all requirements of Part 268 are applicable, except as otherwise specified in this section.

(2) The initial generator of either a liquid hazardous waste containing pol-

ychlorinated biphenyls (PCBs) or a liquid or nonliquid hazardous waste containing halogenated organic compounds (HOCs) must test his waste (not an extract or filtrate), or use knowledge of the waste, to determine whether the concentration levels in the waste equal or exceed the prohibition levels specified in this section. If the concentration of PCBs or HOCs in the waste is greater than or equal to the prohibition levels specified in this section, the waste is restricted from land disposal and all requirements of Part 268 are applicable, except as otherwise specified in this section.

[52 FR 25790, July 8, 1987, as amended at 52 FR 41296, Oct. 27, 1987; 53 FR 31216, Aug. 17, 1988; 54 FR 36972, Sept. 6, 1989]

§ 268.33 Waste specific prohibitions—First Third Wastes

(a) Effective August 8, 1988, the wastes specified in 40 CFR 261.32 as EPA Hazardous Waste Nos. F006 (nonwastewater), K001, K004 wastes specified in § 268.43(a), K008 wastes specified in § 268.43(a), K016, K018, K019, K020, K021 wastes specified in § 268.43(a), K022 (nonwastewater), K024, K025 nonwastewaters specified in § 268.43(a), K030, K036 (nonwastewater), K037, K044, K045, nonexplosive K046 (nonwastewater), K047, K060 (nonwastewater), K061 (nonwastewaters containing less than 15% zinc), K062, non $CaSO_4$ K069 (nonwastewaters), K086 (solvent washes), K087, K099, K100 nonwastewaters specified in § 268.43(a), K101 (wastewater), K101 (nonwastewater, low arsenic subcategory—less than 1% total arsenic), K102 (wastewater), K102 (nonwastewater, low arsenic subcategory—less than 1% total arsenic), K103, and K104 are prohibited from land disposal (except in an injection well).

(1) Effective August 8, 1988 and continuing until August 7, 1990, K061 wastes containing 15% zinc or greater are prohibited from land disposal pursuant to the treatment standards specified in § 268.41 applicable to K061 wastes that contain less than 15% zinc.

(b) Effective August 8, 1990, the wastes specified in 40 CFR 261.32 as EPA Hazardous Waste Nos. K048, K049, K050, K051, K052, K061 (containing 15% zinc or greater), and K071 are prohibited from land disposal.

(c) Effective August 8, 1990, the wastes specified in 40 CFR 268.10 having a treatment standard in Subpart D of this part based on incineration and which are contaminated soil and debris are prohibited from land disposal.

(d) Between November 8, 1988 and August 8, 1990, wastes included in paragraphs (b) and (c) of this section may be disposed of in a landfill or surface impoundment only if such unit is in compliance with the requirements specified in § 268.5(h)(2).

(e) The requirements of paragraphs (a), (b), (c), and (d) of this section do not apply if:

(1) The wastes meet the applicable standards specified in Subpart D of this Part; or

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under § 268.6, with respect to those wastes and units covered by the petition; or

(3) Persons have been granted an extension to the effective date of a prohibition pursuant to § 268.5, with respect to those wastes covered by the extension.

(f) Between August 8, 1988, and May 8, 1990, the wastes specified in § 268.10 for which treatment standards under Subpart D of this Part have not been promulgated, including those wastes which are subject to the statutory prohibitions of RCRA section 3004(d) or codified prohibitions under § 268.32 of this Part, but not including wastes subject to a treatment standard under § 268.42 of this Part, are prohibited from disposal in a landfill or surface impoundment unless a demonstration and certification have been submitted to § 268.8.

(g) To determine whether a hazardous waste listed in § 268.10 exceeds the applicable treatment standards specified in § 268.41 and § 268.43, the initial generator must test a representative sample of the waste extract or the entire waste depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents in excess of the applicable Subpart D levels, the waste is prohibited from land disposal and all requirements of Part 268 are applicable, except as otherwise specified.

[53 FR 31217, Aug. 17, 1988, as amended at 54 FR 36972, Sept. 6, 1989; 55 FR 23935, June 13, 1990]

§ 268.34 Waste specific prohibitions—second third wastes.

(a) Effective June 8, 1989, the following wastes specified in 40 CFR 261.31 as EPA Hazardous Waste Nos. F010; F024; the wastes specified in 40 CFR 261.32 as EPA Hazardous Waste Nos. K005, K007; K009 (nonwastewaters), K010; K023; K027; K028; K029 (nonwastewaters); K036 (wastewaters); K038; K039; K040; K043; K093; K094; K095 (nonwastewaters); K096 (nonwastewaters); K113; K114; K115; K116; and the wastes specified in 40 CFR 261.33 as EPA Hazardous Waste Nos. P013; P021; P029; P030; P039; P040; P041; P043; P044; P062; P063; P071; P074; P085; P089; P094: P097; P098; P099; P104; P106; P109; P111; P121; U028; U058; U069; U087; U088; U102; U107; U221; U223; and U235 are prohibited from land disposal.

(b) Effective June 8, 1989, the following wastes specified in 40 CFR 261.32 as EPA Hazardous Waste Nos. K009 (wastewaters), K011 (nonwastewaters), K013 (nonwastewaters), and K014 (nonwastewaters) are prohibited from land disposal except when they are underground injected pursuant to 40 CFR 148.14(f) and 148.15(d).

(c) Effective July 8, 1989, the wastes specified in 40 CFR 261.31 as EPA Hazardous Waste Nos. F006—cyanide (nonwastewater); F008; F009; F011 (wastewaters) and F012 (wastewaters) are prohibited from land disposal.

(1) Effective July 8, 1989, the following waste specified in 40 CFR 261.31 as EPA Hazardous Waste No. F007 is prohibited from land disposal except when it is underground injected pursuant to 40 CFR 148.14(f).

(2) Effective July 8, 1989 and continuing until December 8, 1989, F011 (nowastewaters) and F012 (nonwastewaters) are prohibited from land disposal pursuant to the treatment standards specified in §§ 268.41 and 268.43 applicable to F007, F008, and F009 nonwastewaters. Effective December 8, 1989 F011 (nowastewaters) and F012 (nonwastewaters) are prohibited from land disposal pursuant to the treatment standards specified in §§ 268.41 and 268.43 applicable to F011 (nonwastewaters) and F012 (nonwastewaters).

(d) Effective June 8, 1991, the wastes specified in this section having a treatment standard in Subpart D of this part based on incineration, and which are contaminated soil and debris are prohibited from land disposal.

(e) Between June 8, 1989 and June 8, 1991, (for wastes F007, F008, F009, F011, and F012 between June 8, 1989 and July 8, 1989) wastes included in paragraphs (c) and (d) of this section may be disposed in a landfill or surface impoundment, regardless whether such unit is a new, replacement, or lateral expansion unit, only if such unit is in compliance with the technical requirements specified in § 268.5(h)(2).

(f) The requirements of paragraphs (a), (b), (c), and (d) of this section do not apply if:

(1) The wastes meet the applicable standards specified in Subpart D of this Part; or

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under § 268.6, with respect to those wastes and units covered by the petition.

(g) The requirements of paragraphs (a), (b), and (c) of this section do not apply if persons have been granted an extension to the effective date of a prohibition pursuant to § 268.5, with respect to those wastes covered by the extension.

(h) Between June 8, 1989 and May 8, 1990, the wastes specified in § 268.11 for which treatment standards under Subpart D of this Part are not applicable, including California list wastes subject to the statutory prohibitions of RCRA section 3004(d) or codified prohibitions under § 268.32, are prohibited from disposal in a landfill or surface impoundment unless the wastes are the subject of a valid demonstration and certification pursuant to § 268.8.

(i) To determine whether a hazardous waste listed in §§ 268.10, 268.11, and 268.12 exceeds the applicable treatment standards specified in §§ 268.41 and 268.43, the initial generator must test a representative sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents in excess of the applicable Subpart D levels, the waste is prohibited from land disposal and all requirements of Part 268 are applicable, except as otherwise specified.

[54 FR 26648, June 23, 1989]

§ 268.35 Waste specific prohibitions—Third Third wastes.

(a) Effective August 8, 1990, the following wastes specified in 40 CFR 261.31 as EPA Hazardous Waste Numbers F006 (wastewaters), F019, and F039 (wastewaters); the wastes specified in 40 CFR 261.32 as EPA Hazardous Waste Numbers K002; K003; K004 (wastewaters); K005 (wastewaters); K006; K008 (wastewaters); K011 (wastewaters); K013 (wastewaters), K014 (wastewaters); K017; K021 (wastewaters); K022 (wastewaters); K025 (wastewaters); K026; K029 (wastewaters); K031 (wastewaters); K032; K033; K034; K035; K041; K042; K046 (wastewaters); K048 (wastewaters); K049 (wastewaters); K050 (wastewaters); K051 (wastewaters); K052 (wastewaters); K060 (wastewaters); K061 (wastewaters); K069 (wastewaters); K073; K083 (wastewaters); K084 (wastewaters); K085; K095 (wastewaters); K096 (wastewaters); K097; K098; K100 (wastewaters); K101 (wastewaters); K102 (wastewaters); K105; and K106 (wastewaters); the wastes specified in 40 CFR 261.33(e) as EPA Hazardous Waste Numbers P001; P002; P003; P004; P005; P006; P007; P008; P009; P010 (wastewaters); P011 (wastewaters); P012 (wastewaters); P014; P015; P016; P017; P018 (wastewaters); P020; P022; P023; P024; P027; P028; P031; P033; P034; P036 (wastewaters); P037; P038 (wastewaters); P042; P045; P046; P047; P048; P049; P050; P051; P054; P056; P057; P058; P059; P060; P064; P065 (wastewaters); P066; P067; P068; P069;
P070; P072; P073; P075; P076; P0
P078; P081; P082; P084; P088; P
(wastewaters); P093; P095; P096; P1
P102; P103; P105; P108; P109; P1
P112; P113; P114; P115; P116; P1
P119; P120; P122; and P123; and
wastes specified in 40 CFR 261.33(f)
EPA Hazardous Waste Numbers U0
U002; U003; U004; U005; U006; U0
U008; U009; U010; U011; U012; U0
U015; U016; U017; U018; U019; U0
U021; U022; U023; U024; U025; U0
U027; U029; U030; U031; U032; U0
U034; U035; U036; U037; U038; U0
U041; U042; U043; U044; U045; U0
U047; U048; U049; U050; U051; U0
U053; U055; U056; U057; U059; U0
U061; U062; U063; U064; U066; U0
U068; U070; U071; U072; U073; U0
U075; U076; U077; U078; U079; U0
U081; U082; U083; U084; U085; U0
U089; U090; U091; U092; U093; U0
U095; U096; U097; U098; U099; U1
U103; U105; U106; U108; U109; U1
U111; U112; U113; U114; U115; U1
U117; U118; U119; U120 (wastewater
U121; U122; U123; U124; U125; U1
U127; U128; U129; U130; U131; U1
U133; U134; U135; U136 (wastewater
U137; U138; U140; U141; U142; U1
U144; U145; U146; U147; U148; U1
U150; U151 (wastewaters); U152; U1
U154; U155; U156; U157; U158; U1
U160; U161; U162; U163; U164; U1
U166; U167; U168; U169; U170; U1
U172; U173; U174; U176; U177; U1
U179; U180; U181; U182; U183; U1
U185; U186; U187; U188; U189; U1
U192; U193; U194; U196; U197; U2
U201; U202; U203; U204; U205; U2
U207; U208; U209; U210; U211; U2
U214; U215; U216; U217; U218; U2
U220; U222; U225; U226; U227; U2
U234; U236; U237; U238; U239; U2
U243; U244; U246; U247; U248; U2
and the following wastes identified
hazardous based on a characterist
alone: D001; D002, D003, D0
(wastewaters), D005, D006; D007; D0
(except for lead materials store
before secondary smelting), D0
(wastewaters), D010, D011, D01
D013, D014, D015, D016, and D017 a
prohibited from land disposal.

(b) Effective November 8, 1990, th
following wastes specified in 40 CF
261.32 as EPA Hazardous Waste Num
bers K048 (nonwastewaters), K0
(nonwastewaters), K050 (no

wastewaters), K051 (nonwastewaters), and K052 (nonwastewaters) are prohibited from land disposal.

(c) Effective May 8, 1992, the following waste specified in 40 CFR 261.31 as EPA Hazardous Waste Numbers F039 (nonwastewaters); the wastes specified in 40 CFR 261.32 as EPA Hazardous Waste Numbers K031 (nonwastewaters); K084 (nonwastewaters); K101 (nonwastewaters); K102 (nonwastewaters); K106 (nonwastewaters); the wastes specified in 40 CFR 261.33(e) as EPA Hazardous Waste Numbers P010 (nonwastewaters); P011 (nonwastewaters); P012 (nonwastewaters); P036 (nonwastewaters); P038 (nonwastewaters); P065 (nonwastewaters); P087 (nonwastewaters); and P092 (nonwastewaters); the wastes specified in 40 CFR 261.33(f) as EPA Hazardous Waste Numbers U136 (nonwastewaters); and U151 (nonwastewaters); and the following wastes identified as hazardous based on a characteristic alone: D004 (nonwastewaters); D008 (lead materials stored before secondary smelting); and D009 (nonwastewaters); inorganic solids debris as defined in 40 CFR 268.2(a)(7) (which also applies to chromium refractory bricks carrying the EPA Hazardous Waste Numbers K048-K052); and RCRA hazardous wastes that contain naturally occurring radioactive materials are prohibited from land disposal.

(d) Effective May 8, 1992, hazardous wastes listed in 40 CFR 268.12 that are mixed radioactive/hazardous wastes are prohibited from land disposal.

(e) Effective May 8, 1992, the wastes specified in this section having a treatment standard in subpart D of this part based on incineration, mercury retorting, or vitrification, and which are contaminated soil or debris, are prohibited from land disposal.

(f) Between May 8, 1990 and August 8, 1990, the wastes included in paragraph (a) may be disposed of in a landfill or surface impoundment only if such unit is in compliance with the requirements specified in § 268.5(h)(2).

(g) Between May 8, 1990 and November 8, 1990, wastes included in paragraph (b) of this section may be disposed of in a landfill or surface impoundment only if such unit is in compliance with the requirements specified in § 268.5(h)(2).

(h) Between May 8, 1990, and May 8, 1992, wastes included in paragraphs (c), (d), and (e) of this section may be disposed of in a landfill or surface impoundment only if such unit is in compliance with the requirements specified in § 268.5(h)(2).

(i) The requirements of paragraphs (a), (b), (c), (d), and (e) of this section do not apply if:

(1) The wastes meet the applicable standards specified in subpart D of this part;

(2) Persons have been granted an exemption from a prohibition pursuant to a petition under § 268.6, with respect to those wastes and units covered by the petition;

(3) The wastes meet the applicable alternate standards established pursuant to a petition granted under § 268.44;

(4) Persons have been granted an extension to the effective date of a prohibition pursuant to § 268.5, with respect to these wastes covered by the extension.

(j) To determine whether a hazardous waste listed in § 268.10, 268.11, and 268.12 exceeds the applicable treatment standards specified in §§ 268.41 and 268.43, the initial generator must test a representative sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents in excess of the applicable subpart D levels, the waste is prohibited from land disposal, and all requirements of part 268 are applicable, except as otherwise specified.

[55 FR 22688, June 1, 1990]

Subpart D—Treatment Standards

§ 268.40 Applicability of treatment standards.

(a) A restricted waste identified in § 268.41 may be land disposed only if an extract of the waste or of the treatment residue of the waste developed using the test method in appendix I of this part does not exceed the value shown in Table CCWE of § 268.41 for any hazardous constituent listed in Table CCWE for that waste, with the following exceptions: D004, D008, K031, K084, K101, K102, P010, P011, P012, P036, P038, and U136. Wastes D004, D008, K031, K084, K101, K102, P010, P011, P012, P036, P038, and U136 may be land disposed only if an extract of the waste or of the treatment residue of the waste developed using either the test method in Appendix I of this part or the test method in appendix II of part 261 does not exceed the value shown in Table CCW of § 268.41 for any hazardous constituent listed in Table CCWE for that waste.

(b) A restricted waste for which a treatment technology is specified under § 268.42(a) may be land disposed after it is treated using that specified technology or an equivalent treatment method approved by the Administrator under the procedures set forth in § 268.42(b).

(c) Except as otherwise specified in § 268.43(c), a restricted waste identified in § 268.43 may be land disposed only if the constituent concentrations in the waste or treatment residue of the waste do not exceed the value shown in Table CCW of § 268.43 for any hazardous constituents listed in Table CCW for that waste.

[52 FR 25790, July 8, 1987, as amended at 55 FR 22689, June 1, 1990]

§ 268.41 Treatment standards expressed as concentrations in waste extract.

(a) Table CCWE identifies the restricted wastes and the concentrations of their associated constituents which may not be exceeded by the extract of a waste or waste treatment residual developed using the test method in Appendix I of this part for the allowable land disposal of such wastes, with the exception of wastes D004, D008, K031, K084, K101, K102, P010, P011, P012, P036, P038, and U136. Table CCWE identifies the restricted wastes D004, D008, K031, K084, K101, K102, P010, P011, P012, P036, P038, and U136 and the concentrations of their associated constituents which may not be exceeded by the extract of a waste or waste treatment residual developed using the test method in Appendix I of this part or appendix II of 40 CFR part 261 for the allowable land disposal of such wastes. (Appendix II of this part provides Agency guidance on treatment methods that have been shown to achieve the Table CCWE levels for the respective wastes. Appendix II of this part is not a regulatory requirement but is provided to assist generators and owners/operators in their selection of appropriate treatment methods.) Compliance with these concentrations is required based upon grab samples.

TABLE CCWE.—CONSTITUENT CONCENTRATIONS IN WASTE EXTRACT

Waste code	See also	Regulated hazardous constituent	CAS number for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewaters concentration (mg/l)
D004	Table CCW in 268.43	Arsenic	7440-38-2	NA	5.0#
D005	Table CCW in 268.43	Barium	7440-39-3	NA	100
D006	Table CCW in 268.43	Cadmium	7440-43-9	NA	1.0
D007	Table CCW in 268.43	Chromium (Total)	7440-47-32	NA	5.0
D008	Table CCW in 268.43	Lead	7439-92-1	NA	5.0
D009 (Low Mercury Subcategory—less than 260 mg/kg Mercury).	Table 2 in 268.42 and Table CCW in 268.43.	Mercury	7439-97-6	NA	0.20
D010	Table CCW in 268.43	Selenium	7782-49-2	NA	5.7
D011	Table CCW in 268.43	Silver	7440-22-4	NA	5.0
F001-F005 spent solvents.	Table 2 in 268.42 and Table CCW in 268.43.	Acetone	67-64-1	0.05	0.59
		n-Butyl alcohol	71-36-3	5.0	5.0
		Carbon disulfide	75-15-0	1.05	4.81
		Carbon tetrachloride	56-23-5	0.05	0.96
		Chlorobenzene	108-90-7	0.15	0.05

Table CCWE.—Constituent Concentrations in Waste Extract—Continued

Waste code	See also	Regulated hazardous constituent	CAS number for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewaters concentration (mg/l)
		Cresols (and cresylic acid)		2.82	0.75
		Cyclohexanone	108-94-1	0.125	0.75
		1,2-Dichlorobenzene	95-50-1	0.65	0.125
		Ethyl acetate	141-78-6	0.05	0.75
		Ethylbenzene	100-41-4	0.05	0.053
		Ethyl ether	60-29-7	0.05	0.75
		Isobutanol	78-83-1	5.0	5.0
		Methanol	67-56-1	0.25	0.75
		Methylene chloride	75-9-2	0.20	0.96
		Methyl ethyl ketone	78-93-3	0.05	0.75
		Methyl isobutyl ketone	108-10-1	0.05	0.33
		Nitrobenzene	98-95-3	0.66	0.125
		Pyridine	110-86-1	1.12	0.33
		Tetrachloroethylene	127-18-4	0.079	0.05
		Toluene	108-88-3	1.12	0.33
		1,1,1-Trichloroethane	71-55-6	1.05	0.41
		1,1,2-Trichloro-1,2,2-Tetrifluorethane	76-13-1	1.05	0.96
		Trichloroethylene	79-01-6	0.062	0.091
		Trichlorofluoromethane	75-69-4	0.05	0.96
		Xylene		0.05	0.15
F006	Table CCW in 268.43	Cadmium	7440-43-9	NA	0.066
		Chromium (Total)	7440-47-32	NA	5.2
		Lead	7439-92-1	NA	0.51
		Nickel	7440-02-0	NA	0.32
		Silver	7440-22-4	NA	0.072
F007	Table CCW in 268.43	Cadmium	7440-43-9	NA	0.066
		Chromium (Total)	7440-47-32	NA	5.2
		Lead	7439-92-1	NA	0.51
		Nickel	7440-02-0	NA	0.32
		Silver	7440-22-4	NA	0.072
008	Table CCW in 268.43	Cadmium	7440-43-9	NA	0.066
		Chromium (Total)	7440-47-32	NA	5.2
		Lead	7439-92-1	NA	0.51
		Nickel	7440-02-0	NA	0.32
		Silver	7440-22-4	NA	0.072
009	Table CCW in 268.43	Cadmium	7440-43-9	NA	0.066
		Chromium (Total)	7440-47-32	NA	5.2
		Lead	7439-92-1	NA	0.51
		Nickel	7440-02-0	NA	0.32
		Silver	7440-22-4	NA	0.072
011	Table CCW in 268.43	Cadmium	7440-43-9	NA	0.066
		Chromium (Total)	7440-47-32	NA	5.2
		Lead	7439-92-1	NA	0.51
		Nickel	7440-02-0	NA	0.32
		Silver	7440-22-4	NA	0.072
012	Table CCW in 268.43	Cadmium	7440-43-9	NA	0.066
		Chromium (Total)	7440-47-32	NA	5.2
		Lead	7439-92-1	NA	0.51
		Nickel	7440-02-0	NA	0.32
		Silver	7440-22-4	NA	0.072
019	Table CCW in 268.43	Chromium (Total)	7440-47-32	NA	5.2
20-F023 and F026-F028 dioxin containing wastes.*		HxCDD-All Hexachlorodibenzo-p-dioxins.		< 1 ppb	< 1 ppb
		HxCDF-All Hexachlorodibenzo-furans.		< 1 ppb	< 1 ppb
		PeCDD-All Pentachlorodibenzo-p-dioxins.		< 1 ppb	< 1 ppb
		PeCDF-All Pentachlorodibenzo-furans.		< 1 ppb	< 1 ppb
		TCDD-All Tetrachlorodibenzo-p-dioxins.		< 1 ppb	< 1 ppb

TABLE CCWE.—CONSTITUENT CONCENTRATIONS IN WASTE EXTRACT—Continued

Waste code	See also	Regulated hazardous constituent	CAS number for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewaters concentration (mg/l)
		TCDF-All Tetrachlorodibenzo-furans.		<1 ppb	<1 ppb
		2,4,5-Trichlorophenol	95-95-4	<0.05 ppm	<0.05 ppm
		2,4,6-Trichlorophenol	88-06-2	<0.05 ppm	<0.05 ppm
		2,3,4,6-Tetrachlorophenol.	58-90-2	<0.05 ppm	<0.05 ppm
		Pentachlorophenol	87-86-5	<0.01 ppm	<0.01 ppm
F024	Table CCW in 268.43	Chromium (Total)	7440-47-32	NA	0.073
		Lead	7439-92-1	NA	0.021
		Nickel	7440-02-0	NA	0.088
F039	Table CCW in 268.43	Antimony	7440-36-0	NA	0.23
		Arsenic	7440-38-2	NA	5.0
		Barium	7440-39-3	NA	52
		Cadmium	7440-43-9	NA	0.066
		Chromium (Total)	7440-47-32	NA	5.2
		Lead	7439-92-1	NA	0.51
		Mercury	7439-97-6	NA	0.025
		Nickel	7440-02-0	NA	0.32
		Selenium	7782-49-2	NA	5.7
		Silver	7440-22-4	NA	0.072
K001	Table CCW in 268.43	Lead	7439-92-1	NA	0.51
K002	Table CCW in 268.43	Chromium (Total)	7440-47-32	NA	0.094
		Lead	7439-92-1	NA	0.37
K003	Table CCW in 268.43	Chromium (Total)	7440-47-32	NA	0.094
		Lead	7439-92-1	NA	0.37
K004	Table CCW in 268.43	Chromium (Total)	7440-47-32	NA	0.094
		Lead	7439-92-1	NA	0.37
K005	Table CCW in 268.43	Chromium (Total)	7440-47-32	NA	0.094
		Lead	7439-92-1	NA	0.37
K006 (anhydrous)	Table CCW in 268.43	Chromium (Total)	7440-47-32	NA	0.094
		Lead	7439-92-1	NA	0.37
K006 (hydrated)	Table CCW in 268.43	Chromium (Total)	7440-47-32	NA	5.2
K007	Table CCW in 268.43	Chromium (Total)	7440-47-32	NA	0.094
		Lead	7439-92-1	NA	0.37
K008	Table CCW in 268.43	Chromium (Total)	7440-47-32	NA	0.094
		Lead	7439-92-1	NA	0.37
K015	Table CCW in 268.43	Chromium (Total)	7440-47-32	NA	1.7
		Lead	7439-92-1	NA	0.2
K021	Table CCW in 268.43	Antimony	7440-36-0	NA	0.23#
K022	Table CCW in 268.43	Chromium (Total)	7440-47-32	NA	5.2
		Nickel	7440-02-2	NA	0.32
K028	Table CCW in 268.43	Chromium (Total)	7440-47-32	NA	0.073
		Lead	7439-92-1	NA	0.021
		Nickel	7440-02-0	NA	0.088
K031	Table CCW in 268.43	Arsenic	7440-38-2	NA	5.6#
K046	Table CCW in 268.43	Lead	7439-92-1	NA	0.18
K048	Table CCW in 268.43	Chromium (Total)	7440-47-32	NA	1.7
		Nickel	7440-02-0	NA	0.20
K049	Table CCW in 268.43	Chromium (Total)	7440-47-32	NA	1.7
		Nickel	7440-02-0	NA	0.20
K050	Table CCW in 268.43	Chromium (Total)	7440-47-32	NA	1.7
		Nickel	7440-02-0	NA	0.20
K051	Table CCW in 268.43	Chromium (Total)	7440-47-32	NA	1.7
		Nickel	7440-02-0	NA	0.20
K052	Table CCW in 268.43	Chromium (Total)	7440-47-32	NA	1.7
		Nickel	7440-02-0	NA	0.20
K061 (Low Zinc Subcategory—less than 15% Total Zinc).	Table CCW in 268.43	Cadmium	7440-43-9	NA	0.14
		Chromium (Total)	7440-47-32	NA	5.2
		Lead	7439-92-1	NA	0.24
		Nickel	7440-02-0	NA	0.32
K062	Table CCW in 268.43	Chromium (Total)	7440-47-32	NA	0.094
		Lead	7439-92-1	NA	0.37
K069 (Calcium Sulfate Subcategory).	Table 2 in 268.42 and Table CCW in 268.43.	Cadmium	7440-43-9	NA	0.14
		Lead	7439-92-1	NA	0.24

TABLE CCWE.—CONSTITUENT CONCENTRATIONS IN WASTE EXTRACT—Continued

Waste code	See also	Regulated hazardous constituent	CAS number for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewaters concentration (mg/l)
K071 (Low Mercury Subcategory—less than 16 mg/kg Mercury).	Table CCW in 268.43	Mercury	7439-97-6	NA	0.025
K083	Table CCW in 268.43	Nickel	7440-02-0	NA	0.088
K084	Table CCW in 268.43	Arsenic	7440-38-2	NA	5.6#
K086	Table CCW in 268.43	Chromium (Total)	7440-47-32	NA	0.094
		Lead	7439-92-1	NA	0.37
K087	Table CCW in 268.43	Lead	7439-92-1	NA	0.51
K100	Table CCW in 268.43	Cadmium	7440-43-9	NA	0.066
		Chromium (Total)	7440-47-32	NA	5.2
		Lead	7439-92-1	NA	0.51
K101	Table CCW in 268.43	Arsenic	7440-38-2	NA	5.6#
K102	Table CCW in 268.43	Arsenic	7440-38-2	NA	5.6#
K106 (Low Mercury Subcategory—less than 260 mg/kg Mercury—residues from RMERC).	Table 2 in 268.42 and Table CCW in 268.43.	Mercury	7439-97-6	NA	0.20
K106 (Low Mercury Subcategory—less than 260 mg/kg Mercury—that are not residues from RMERC).	Table 2 in 268.42 and Table CCW in 268.43.	Mercury	7439-97-6	NA	0.025
K115	Table CCW	Nickel	7440-02-0	NA	0.32

#—These treatment standards have been based on EP Leachate analysis but this does not preclude the use of TCLP analysis.

*—These waste codes are not subcategorized into wastewaters and nonwastewaters.

NA—Not Applicable.

TABLE CCWE.—CONSTITUENT CONCENTRATIONS FOR WASTE EXTRACTS

Waste code	See also	Commercial chemical name	Regulated hazardous constituent	CAS number for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewaters concentration (mg/l)
P010	Table CCW in 268.43	Arsenic acid	Arsenic	7440-38-2	NA	5.6
P011	Table CCW in 268.43	Arsenic pentoxide	Arsenic	7440-38-2	NA	5.6
P012	Table CCW in 268.43	Arsenic trioxide	Arsenic	7440-38-2	NA	5.6
P013	Table CCW in 268.43	Barium cyanide	Barium	7440-39-3	NA	52
P036	Table CCW in 268.43	Dichlorophenylarsine	Arsenic	7440-38-2	NA	5.6
P038	Table CCW in 268.43	Diethylarsine	Arsenic	7440-38-2	NA	5.6
P065 (Low Mercury Subcategory—less than 260 mg/kg Mercury-residues from RMERC).	Table 2 in 268.42 and Table CCW in 268.43.	Mercury fulminate	Mercury	7439-97-6	NA	0.20
P065 (Low Mercury Subcategory—less than 260 mg/kg Mercury-incinerator residues (and are not residues from RMERC)).	Table 2 in 268.42 and Table CCW in 268.43.	Mercury fulminate	Mercury	7439-97-6	NA	0.025
P073	Table CCW in 268.43	Nickel carbonyl	Nickel	7440-02-0	NA	0.32
P074	Table CCW in 268.43	Nickel cyanide	Nickel	7440-02-0	NA	0.32
P092 (Low Mercury Subcategory—less than 260 mg/kg Mercury residues from RMERC).	Table 2 in 268.42 and Table CCW in 268.43.	Phenyl mercury acetate	Mercury	7439-97-6	NA	0.20
P092 (Low Mercury Subcategory—less than 260 mg/kg Mercury-incinerator residues (and are not residues from RMERC)).	Table 2 in 268.42 and Table CCW in 268.43.	Phenyl mercury acetate	Mercury	7439-97-6	NA	0.025
P099	Table CCW in 268.43	Potassium silver cyanide	Silver	7440-22-4	NA	0.072
P103	Table CCW in 268.43	Selenourea	Selenium	7782-49-2	NA	5.7
P104	Table CCW in 268.43	Silver cyanide	Silver	7440-22-4	NA	0.072
P110	Table CCW in 268.43	Tetraethyl lead	Lead	7439-92-1	NA	0.51
P114	Table CCW in 268.43	Thallium selenite	Selenium	7782-49-2	NA	5.7
U032	Table CCW in 268.43	Calcium chromate	Chromium (Total)	7440-47-32	NA	0.094
U051	Table CCW in 268.43	Creosote	Lead	7439-92-1	NA	0.51
U136	Table CCW in 268.43	Cacodylic acid	Arsenic	7440-38-2	NA	5.6
U144	Table CCW in 268.43	Lead acetate	Lead	7439-92-1	NA	0.51
U145	Table CCW in 268.43	Lead phosphate	Lead	7439-92-1	NA	0.51
U146	Table CCW in 268.43	Lead subacetate	Lead	7439-92-1	NA	0.51
U151 (Low Mercury Subcategory—less than 260 mg/kg Mercury—residues from RMERC).	Table CCW in 268.43 and in Table 2 in 268.42.	Mercury	Mercury	7439-97-6	NA	0.20
U151 (Low Mercury Subcategory—less than 260 mg/kg Mercury—that are not residues from RMERC)	Table CCW in 268.43 and Table 2 in 268.42.	Mercury	Mercury	7439-97-6	NA	0.025

U204	Table CCW in 268.43	Selenium dioxide	Selenium	7782-49-2	NA	5.7
U205	Table CCW in 268.43	Selenium sulfide	Selenium	7782-49-2	NA	5.7

—These treatment standards have been based on EP Leachate analysis but this does not preclude the use of TCLP analysis.

*—These waste codes are not subcategorized into wastewaters and nonwastewaters.

NA—Not Applicable.

(b) When wastes with differing treatment standards for a constituent of concern are combined for purposes of treatment, the treatment residue must meet the lowest treatment standard for the constituent of concern.

[51 FR 40642, Nov. 7, 1986; 52 FR 21017, June 4, 1987, as amended at 55 FR 22689 June 1, 1990]

§ 268.42 Treatment standards expressed as specified technologies.

(a) The following wastes in paragraphs (a)(1) and (a)(2) of this section and in Table 2 and Table 3 of this section must be treated using the technology or technologies specified in paragraphs (a)(1) and (a)(2) and Table 1 of this section.

(1) Liquid hazardous wastes containing polychlorinated biphenyls (PCBs) at concentrations greater than or equal to 50 ppm but less than 500 ppm must be incinerated in accordance with the technical requirements of 40 CFR 761.70 or burned in high efficiency boilers in accordance with the technical requirements of 40 CFR 761.60. Liquid hazardous wastes containing polychlorinated biphenyls (PCBs) at concentrations greater than or equal to 500 ppm must be incinerated in accordance with the technical requirements of 40 CFR 761.70. Thermal treatment under this section must also be in compliance with applicable regulations in Parts 264, 265, and 266.

(2) Nonliquid hazardous wastes containing halogenated organic compounds (HOCs) in total concentration greater than or equal to 1,000 mg/kg and liquid HOC-containing wastes that are prohibited under § 268.32(e)(1) of this part must be incinerated in accordance with the requirements of 40 CFR part 264, subpart O or 40 CFR part 265, subpart O. These treatment standards do not apply where the waste is subject to a part 268, subpart C treatment standard for specific HOC (such as a hazardous waste chlorinated solvent for which a treatment standard is established under § 268.41(a)).

TABLE 1.—TECHNOLOGY CODES AND DESCRIPTION OF TECHNOLOGY-BASED STANDARDS

Technology code	Description of technology-based standard
ADGAS	Venting of compressed gases into an absorbing or reacting media (i.e., solid or liquid)—venting ca accomplished through physical release utilizing values/piping; physical penetration of the container and penetration through detonation.
AMLGM	Amalgamation of liquid, elemental mercury contaminated with radioactive materials utilizing inorganic reag such as copper, zinc, nickel, gold, and sulfur that result in a nonliquid, semi-solid amalgam and the reducing potential emissions of elemental mercury vapors to the air.
BIODG	Biodegradation of organics or non-metallic inorganics (i.e., degradable inorganics that contain the elements phosphorus, nitrogen, and sulfur) in units operated under either aerobic or anaerobic conditions such tha surrogate compound or indicator parameter has been substantially reduced in concentration in the resid (e.g., Total Organic Carbon can often be used as an indicator parameter for the biodegradation of ma organic constituents that cannot be directly analyzed in wastewater residues).
CARBN	Carbon adsorption (granulated or powdered) of non-metallic inorganics, organo-metallics, and/or orga constituents, operated such that a surrogate compound or indicator parameter has not underg breakthrough (e.g., Total Organic Carbon can often be used as an indicator parameter for the adsorption many organic constituents that cannot be directly analyzed in wastewater residues). Breakthrough oc when the carbon has become saturated with the constituent (or indicator parameter) and substa change in adsorption rate associated with that constituent occurs.
CHOXD	Chemical or electrolytic oxidation utilizing the following oxidation reagents (or waste reagents) or combina or reagents: (1) Hypochlorite (e.g. bleach); (2) chlorine; (3) chlorine dioxide; (4) ozone or UV (ultra light) assisted ozone; (5) peroxides; (6) persulfates; (7) perchlorates; (8) permangantes; and/or (9) ot oxidizing reagents of equivalent efficiency, performed in units operated such that a surrogate compound indicator parameter has been substantially reduced in concentration in the residuals (e.g., Total Org Carbon can often be used as an indicator parameter for the oxidation of many organic constituents t cannot be directly analyzed in wastewater residues). Chemical oxidation specifically includes wh commonly referred to as alkaline chlorination.

TABLE 1.—TECHNOLOGY CODES AND DESCRIPTION OF TECHNOLOGY-BASED STANDARDS—Continued

nology code	Description of technology-based standard
D	Chemical reduction utilizing the following reducing reagents (or waste reagents) or combinations of reagents: (1) Sulfur dioxide; (2) sodium, potassium, or alkali salts of sulfites, bisulfites, metabisulfites, and polyethylene glycols (e.g., NaPEG and KPEG); (3) sodium hydrosulfide; (4) ferrous salts; and/or (5) other reducing reagents of equivalent efficiency, performed in units operated such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., Total Organic Halogens can often be used as an indicator parameter for the reduction of many halogenated organic constituents that cannot be directly analyzed in wastewater residues). Chemical reduction is commonly used for the reduction of hexavalent chromium to the trivalent state.
T	Deactivation to remove the hazardous characteristics of a waste due to its ignitability, corrosivity, and/or reactivity.
S	Fuel substitution in units operated in accordance with applicable technical operating requirements.
	Vitrification of high level mixed radioactive wastes in units in compliance with all applicable radioactive protection requirements under control of the Nuclear Regulatory Commission.
	Incineration of wastes containing organics and mercury in units operated in accordance with the technical operating requirements of 40 CFR part 264, subpart O and 40 CFR part 265, subpart O. All wastewater and nonwastewater residues derived from this process must then comply with the corresponding treatment standards per waste code with consideration of any applicable subcategories (e.g., High or Low Mercury Subcategories).
	Incineration in units operated in accordance with the technical operating requirements of 40 CFR part 264, subpart O and 40 CFR part 265, subpart O.
	Liquid-liquid extraction (often referred to as solvent extraction) of organics from liquid wastes into an immiscible solvent for which the hazardous constituents have a greater solvent affinity, resulting in an extract high in organics that must undergo either incineration, reuse as a fuel, or other recovery/reuse and a raffinate (extracted liquid waste) proportionately low in organics that must undergo further treatment as specified in the standard.
	Macroencapsulation with surface coating materials such as polymeric organics (e.g. resins and plastics) or with a jacket of inert inorganic materials to substantially reduce surface exposure to potential leaching media. Macroencapsulation specifically does not include any material that would be classified as a tank or container according to 40 CFR 260.10.
	Neutralization with the following reagents (or waste reagents) or combinations of reagents: (1) Acids; (2) bases; or (3) water (including wastewaters) resulting in a pH greater than 2 but less than 12.5 as measured in the aqueous residuals.
	No land disposal based on recycling.
	Chemical precipitation of metals and other inorganics as insoluble precipitates of oxides, hydroxides, carbonates, sulfides, sulfates, chlorides, flourides, or phosphates. The following reagents (or waste reagents) are typically used alone or in combination: (1) Lime (i.e., containing oxides and/or hydroxides of calcium and/or magnesium; (2) caustic (i.e., sodium and/or potassium hydroxides; (3) soda ash (i.e., sodium carbonate); (4) sodium sulfide; (5) ferric sulfate or ferric chloride; (6) alum; or (7) sodium sulfate. Additional flocculating, coagulation, or similar reagents/processes that enhance sludge dewatering characteristics are not precluded from use.
	Thermal recovery of Beryllium.
	Recovery/reuse of compressed gases including techniques such as reprocessing of the gases for reuse/resale; filtering/adsorption of impurities; remixing for direct reuse of resale; and use of the gas as a fuel source.
	Recovery of acids or bases utilizing one or more of the following recovery technologies: (1) Distillation (i.e., thermal concentration); (2) ion exchange; (3) resin or solid adsorption; (4) reverse osmosis; and/or (5) incineration for the recovery of acid—Note: this does not preclude the use of other physical phase separation or concentration techniques such as decantation, filtration (including ultrafiltration), and centrifugation, when used in conjunction with the above listed recovery technologies.
	Thermal recovery of lead in secondary lead smelters.
	Retorting or roasting in a thermal processing unit capable of volatilizing mercury and subsequently condensing the volatilized mercury for recovery. The retorting or roasting unit (or facility) must be subject to one or more of the following: (a) A National Emissions Standard for Hazardous Air Pollutants (NESHAP) for mercury; (b) a Best Available Control Technology (BACT) or a Lowest Achievable Emission Rate (LAER) standard for mercury imposed pursuant to a Prevention of Significant Deterioration (PSD) permit; or (c) a state permit that establishes emission limitations (within meaning of Section 302 of the Clean Air Act) for mercury. All wastewater and nonwastewater residues derived from this process must then comply with the corresponding treatment standards per waste code with consideration of any applicable subcategories (e.g., High or Low Mercury Subcategories).
	Recovery of metals or inorganics utilizing one or more of the following direct physical/removal technologies: (1) Ion exchange; (2) resin or solid (i.e., zeolites) adsorption; (3) reverse osmosis; (4) chelation/solvent extraction; (5) freeze crystalization; (6) ultrafiltration; and/or 6 simple precipitation (i.e., crystalization)—Note: this does not preclude the use of other physical phase separation or concentration techniques such as decantation, filtration (including ultrafiltration), and centrifugation, when used in conjunction with the above listed recovery technologies.

TABLE 1.—TECHNOLOGY CODES AND DESCRIPTION OF TECHNOLOGY-BASED STANDARDS—Continued

Technology code	Description of technology-based standard
RORGS	Recovery of organics utilizing one or more of the following technologies: (1) Distillation; (2) thin fi evaporation; (3) steam stripping; (4) carbon adsorption; (5) critical fluid extraction; (6) liquid-liquid extraction; (7) precipitation/crystallization (including freeze crystallization); or (8) chemical phase separation technique (i.e., addition of acids, bases, demulsifiers, or similar chemicals); Note: This does not preclude the use of other physical phase separation techniques such as decantation, filtration (including ultrafiltration), and centrifugation, when used in conjunction with the above listed recovery technologies.
RTHRM	Thermal recovery of metals or inorganics from nonwastewaters in units defined in 40 CFR 260.10, paragraphs (1), (6), (7), (11), and (12), under the definition of "industrial furnaces".
RZINC	Resmelting in for the purpose of recovery of zinc high temperature metal recovery units.
STABL	Stabilization with the following reagents (or waste reagents) or combinations of reagents: (1) Portland cement or (2) lime/pozzolans (e.g., fly ash and cement kiln dust)—this does not preclude the addition of reagents (e.g., iron salts, silicates, and clays) designed to enhance the set/cure time and/or compressive strength or to overall reduce the leachability of the metal or inorganic.
SSTRP	Steam stripping of organics from liquid wastes utilizing direct application of steam to the wastes operated such that liquid and vapor flow rates, as well as, temperature and pressure ranges have been optimized, monitored, and maintained. These operating parameters are dependent upon the design parameters of the unit such as, the number of separation stages and the internal column design. Thus, resulting in a condensed extract high in organics that must undergo either incineration, reuse as a fuel, or other recovery/reuse and an extracted wastewater that must undergo further treatment as specified in the standard.
WETOX	Wet air oxidation performed in units operated such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., Total Organic Carbon can often be used as an indicator parameter for the oxidation of many organic constituents that cannot be directly analyzed in wastewater residues).
WTRRX	Controlled reaction with water for highly reactive inorganic or organic chemicals with precautionary controls for protection of workers from potential violent reactions as well as precautionary controls for potential emissions of toxic/ignitable levels of gases released during the reaction.

NOTE 1: When a combination of these technologies (i.e., a treatment train) is specified as a single treatment standard, the order of application is specified in § 268.42, Table 2 by indicating the five letter technology code that must be applied first, then the designation "fb." (an abbreviation for "followed by"), then the five letter technology code for the technology that must be applied next, and so on.

NOTE 2: When more than one technology (or treatment train) are specified as *alternative* treatment standards, the five letter technology codes (or the treatment trains) are separated by a semicolon (;) with the last technology preceded by the word "OR". This indicates that any one of these BDAT technologies or treatment trains can be used for compliance with the standard.

Waste code	See also	Waste descriptions and/or treatment subcategory	CAS No. for regulated hazardous constituents	Technology code	
				Wastewaters	Nonwastewaters
D001		Ignitable Liquids based on 261.21(a)(1)—Wastewaters	NA	DEACT	NA.
D001		Ignitable Liquids based on 261.21(a)(1)—Low TOC Ignitable Liquids Subcategory—Less than 10% total organic carbon.	NA	NA	DEACT.
D001		Ignitable Liquids based on 261.21(a)(1)—High TOC Ignitable Liquids Subcategory—Greater than or equal to 10% total organic carbon.	NA	NA	FSUBS; RORGS; or INCIN.
D001		Ignitable compressed gases based on 261.21(a)(3)	NA	NA	DEACT**.
D001		Ignitable reactives 261.21(a)(2)	NA	NA	DEACT.
D001		Oxidizers based on 261.21(a)(4)	NA	DEACT	DEACT.
D002		Acid subcategory based on 261.22(a)(1)	NA	DEACT	DEACT.
D002		Alkaline subcategory based on 261.22(a)(1)	NA	DEACT	DEACT.
D002		Other corrosives based on 261.22(a)(2)	NA	DEACT	DEACT.
D003		Reactive sulfides based on 261.23(a)(5)	NA	DEACT	DEACT.
D003		Explosives based on 261.23(a) (6), (7), and (8)	NA	DEACT	DEACT.
D003		Water reactives based on 261.23(a) (2), (3), and (4)	NA	NA	DEACT.
D003		Other reactives based on 261.23(a)(1)	NA	DEACT	DEACT.
D006		Cadmium containing batteries	7440-43-9	NA	RTHRM.
D008		Lead acid batteries (Note: This standard only applies to lead acid batteries that are identified as RCRA hazardous wastes and that are not excluded elsewhere from regulation under the land disposal restrictions of 40 CFR 268 or exempted under other EPA regulations (see 40 CFR 266.80).)	7439-92-1	NA	RLEAD.
D009	Table CCWE in 268.41 and Table CCW in 268.43	Mercury: (High Mercury Subcategory—greater than or equal to 260 mg/kg total Mercury—contains mercury and organics (and are not incinerator residues)).	7439-97-6	NA	IMERC; or RMERC.
D009	Table CCWE in 268.41 and Table CCW in 268.43	Mercury: (High Mercury Subcategory—greater than or equal to 260 mg/kg total Mercury—inorganics (including incinerator residues and residues from RMERC)).	7439-97-6	NA	RMERC.
D012	Table CCW in 268.43	Endrin	72-20-8	BIODG; or INCIN	NA.
D013	Table CCW in 268.43	Lindane	58-89-9	CARBN; or INCIN	NA.
D014	Table CCW in 268.43	Methoxychlor	72-43-5	WETOX; or INCIN	NA.
D015	Table CCW in 268.43	Toxaphene	8001-35-1	BIODG; or INCIN	NA.
D016	Table CCW in 268.43	2,4-D	94-75-7	CHOXD; BIODG; or INCIN	NA.
D017	Table CCW in 268.43	2,4,5-TP	93-72-1	CHOXD; or INCIN	NA.
F005	Table CCWE in 268.41 and Table CCW in 268.43	2-Nitropropane	79-46-9	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
F005	Table CCWE in 268.41 and Table CCW in 268.43	2-Ethoxyethanol	110-80-5	BIODG; or INCIN	INCIN.

TABLE 2.—TECHNOLOGY-BASED STANDARDS BY RCRA WASTE CODE—Continued

Waste code	See also	Waste descriptions and/or treatment subcategory	CAS No. for regulated hazardous constituents	Technology code	
				Wastewaters	Nonwastewaters
F024	Table CCWE in 268.41 and Table CCW in 268.43.		NA	INCIN	INCIN.
K025		Distillation bottoms from the production of nitrobenzene by the nitration of benzene.	NA	LLEXT fb SSTRP fb CARBN; or INCIN	INCIN.
K026		Stripping still tails from the production of methyl ethyl pyridines.	NA	INCIN	INCIN.
K027		Centrifuge and distillation residues from toluene diisocyanate production.	NA	CARBN; or INCIN	FSUBS; or INCIN.
K039		Filter cake from the filtration of diethylphosphorodithioc acid in the production of phorate.	NA	CARBN; or INCIN	FSUBS; or INCIN.
K044		Wastewater treatment sludges from the manufacturing and processing of explosives.	NA	DEACT	DEACT.
K045		Spent carbon from the treatment of wastewater containing explosives.	NA	DEACT	DEACT.
K047		Pink/red water from TNT operations	NA	DEACT	DEACT.
K061	Table CCW in 268.43.	Emission control dust/sludge from the primary production of steel in electric furnaces (High Zinc Subcategory—greater than or equal to 15% total Zinc).	NA	NA	NLDBR.
K069	Table CCWE in 268.41 and Table CCW in 268.43.	Emission control dust/sludge from secondary lead smelting: Non-Calcium Sulfate Subcategory.	NA	NA	RLEAD.
K106	Table CCWE in 268.41 and Table CCW in 268.43.	Wastewater treatment sludge from the mercury cell process in chlorine production: (High Mercury Subcategory-greater than or equal to 260 mg/kg total mercury).	NA	NA	RMERC.
K113		Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	NA	CARBN; or INCIN	FSUBS; or INCIN.
K114		Vicinals from the purification of toluenediame in the production of toluenediamine via hydrogenation of dinitrotoluene.	NA	CARBN; or INCIN	FSUBS; or INCIN.
K115		Heavy ends from the purification of toluenediame in the production of toluenediamine via hydrogenation of dinitrotoluene.	NA	CARBN; or INCIN	FSUBS; or INCIN.
K116		Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine.	NA	CARBN; or INCIN	FSUBS; or INCIN.
P001		Warfarin (>0.3%)	81-81-2	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
P002		1-Acetyl-2-thiourea	591-08-2	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.

P003		Acrolein	107-02-8	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
P005		Allyl alcohol	107-18-6	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
P006		Aluminum phosphide	20859-73-8	CHOXD; CHRED; or INCIN	CHOXD; CHRED; or INCIN.
P007		5-Aminoethyl 3-isoxazolol	2763-96-4	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P008		4-Aminopyridine	504-24-5	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P009		Ammonium picrate	131-74-8	CHOXD; CHRED; CARBN; BIODG; or INCIN	FSUBS; CHOXD; CHRED; or INCIN.
P014		Thiophenol (Benzene thiol)	108-98-5	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P015		Beryllium dust	7440-41-7	NA	RMETL; or RTHRM.
P016		Bis(chloromethyl)ether	542-88-1	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P017		Bromoacetone	598-31-2	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P018		Brucine	357-57-3	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P022	Table CCW in 268.43	Carbon disulfide	75-15-0	NA	INCIN.
P023		Chloroacetaldehyde	107-20-0	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P026		1-(o-Chlorophenyl) thiourea	5344-82-1	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P027		3-Chloropropionitrile	542-76-7	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P028		Bensyl chloride	100-44-7	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P031		Cyanogen	460-19-5	CHOXD; WETOX; or INCIN	CHOXD; WETOX; or INCIN.
P033		Cyanogen chloride	506-77-4	CHOXD; WETOX; or INCIN	CHOXD; WETOX; or INCIN.
P034		2-Cyclohexyl-4,6-dinitrophenol	131-89-5	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P040		0,0-Diethyl 0-pyrazinyl phosphorothioate	297-97-2	CARBN; or INCIN	FSUBS; or INCIN.
P041		Diethyl-p-nitrophenyl phosphate	311-45-5	CARBN; or INCIN	FSUBS; or INCIN.
P042		Epinephrine	51-43-4	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P043		Diisopropylfluorophosphate (DFP)	55-91-4	CARBN; or INCIN	FSUBS; or INCIN.
P044		Dimethoate	60-51-5	CARBN; or INCIN	FSUBS; or INCIN.
P045		Thiofanox	39196-18-4	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P046		alpha, alpha-Dimethylphenethylamine	122-09-8	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P047		4,6-Dinitro-o-cresol salts	534-52-1	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P049		2,4-Dithiobiuret	541-53-7	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.

TABLE 2.—TECHNOLOGY-BASED STANDARDS BY RCRA WASTE CODE—Continued

Waste code	See also	Waste descriptions and/or treatment subcategory	CAS No. for regulated hazardous constituents	Technology code	
				Wastewaters	Nonwastewaters
P054		Aziridine	151-56-4	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P056	Table CCW in 268.43	Fluorine	7782-41-4	NA	ADGAS fb NEUTR.
P057		Fluoroacetamide	640-19-7	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P058		Fluoroacetic acid, sodium salt	62-74-8	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P062		Hexaethyltetraphosphate	757-58-4	CARBN; or INCIN	FSUBS; or INCIN.
P064		Isocyanic acid, ethyl ester	624-83-9	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P065	Table CCWE in 268.41 and Table CCW in 268.43.	Mercury fulminate: (High Mercury Subcategory—greater than or equal to 260 mg/kg total Mercury—either incinerator residues or residues from RMERC).	628-86-4	NA	RMERC.
P065	Table CCWE in 268.41 and Table CCW in 268.43.	Mercury fulminate: (All nonwastewaters that are not incinerator residues from RMERC; regardless of Mercury Content).	628-86-4	NA	IMERC.
P066		Methomyl	16752-77-5	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P067		2-Methylaziridine	75-55-8	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P068		Methyl hydrazine	60-34-4	CHOXD; CHRED; CARBN; BIODG; or INCIN	FSUBS; CHOXD; CHRED; or INCIN.
P069		Methyllactonitrile	75-86-5	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P070		Aldicarb	116-06-3	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P072		1-Naphthyl-2-thiourea	86-88-4	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P075		Nicotine and salts	54-11-5*	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P076		Nitric oxide	10102-43-9	ADGAS	ADGAS.
P078		Nitrogen dioxide	10102-44-0	ADGAS	ADGAS.
P081		Nitroglycerin	55-63-0	CHOXD; CHRED; CARBN; BIODG; or INCIN	FSUBS; CHOXD; CHRED; or INCIN.
P082	Table CCW in 268.43	N-Nitrosodimethylamine	62-75-9	NA	INCIN.
P084		N-Nitrosomethylvinylamine	4549-40-0	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P085		Octamethylpyrophosphoramide	152-16-9	CARBN; or INCIN	FSUBS; or INCIN.
P087		Osmium tetroxide	20816-12-0	NA	RMETL; or RTHRM.

				INCIN	FSUBS; or INCIN.
P092	Table CCWE in 268.41 and Table CCW in 268.43.	Phenyl mercury acetate: (High Mercury Subcategory—greater than or equal to 260 mg/kg total Mercury—either incinerator residues or residues from RMERC).	62-38-4	NA	RMERC.
P092	Table CCWE in 268.41 and Table CCW in 268.43.	Phenyl mercury acetate: (All nonwastewaters that are not incinerator residues and are not residues from RMERC; regardless of Mercury Content).	62-38-4	NA	IMERC; or RMERC.
P093		N-Phenylthiouea	103-85-5	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P095		Phosgene	75-44-5	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P096		Phosphine	7803-51-2	CHOXD; CHRED; or INCIN	CHOXD; CHRED; or INCIN.
P102		Propargyl alcohol	107-19-7	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
P105		Sodium azide	26628-22-8	CHOXD; CHRED; CARBN; BIODG; or INCIN	FSUBS; CHOXD; CHRED; or INCIN.
P108		Strychnine and salts	57-24-9*	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P109		Tetraethyldithiopyrophosphate	3689-24-5	CARBN; or INCIN	FSUBS; or INCIN.
P112		Tetranitromethane	509-14-8	CHOXD; CHRED; CARBN; BIODG; or INCIN	FSUBS; CHOXD; CHRED; or INCIN.
P113	Table CCW in 268.43	Thallic oxide	1314-32-5	NA	RTHRM; or STABL.
P115	Table CCW in 268.43	Thallium (I) sulfate	7446-18-6	NA	RTHRM; or STABL.
P116		Thiosemicarbazide	79-19-6	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P118		Trichloromethanethiol	75-70-7	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P119	Table CCW in 268.43	Ammonium vanadate	7803-55-6	NA	STABL.
P120	Table CCW in 268.43	Vanadium pentoxide	1314-62-1	NA	STABL.
P122		Zinc Phosphide (< 10%)	1314-84-7	CHOXD; CHRED; or INCIN	CHOXD; CHRED; or INCIN.
U001		Acetaldehyde	75-07-0	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U003	Table CCW in 268.43	Acetonitrile	75-05-8	NA	INCIN.
U006		Acetyl Chloride	75-36-5	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U007		Acrylamide	79-06-1	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U008		Acrylic acid	79-10-7	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U010		Mitomycin C	50-07-7	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U011		Amitrole	61-82-5	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U014		Auramine	492-80-8	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U015		Azaserine	115-02-6	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.

TABLE 2.—TECHNOLOGY-BASED STANDARDS BY RCRA WASTE CODE—Continued

Waste code	See also	Waste descriptions and/or treatment subcategory	CAS No. for regulated hazardous constituents	Technology code	
				Wastewaters	Nonwastewaters
U016		Benz(c)acridine	225-51-4	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U017		Benzal chloride	98-87-3	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U020		Benzenesulfonyl chloride	98-09-9	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U021		Benzidine	92-87-5	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U023		Benzotrichloride	98-07-7	CHOXD; CHRED; CARBN; BIODG; or INCIN	FSUBS; CHOXD; CHRED; or INCIN.
U026		Chlornaphazin	494-03-1	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U033		Carbonyl fluoride	353-50-4	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U034		Trichloroacetaldehyde (Chloral)	75-87-6	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U035		Chlorambucil	305-03-3	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U038	Table CCW in 268.43	Chlorobenzilate	510-15-6	NA	INCIN.
U041		1-Chloro-2,3-epoxypropane (Epichlorohydrin)	106-89-8	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U042	Table CCW in 268.43	2-Chloroethyl vinyl ether	110-75-8	NA	INCIN.
U046		Chloromethyl methyl ether	107-30-2	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U049		4-Chloro-o-toluidine hydrochloride	3165-93-3	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U053		Crotonaldehyde	4170-30-3	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U055		Cumene	98-82-8	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U056		Cyclohexane	110-82-7	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U057	Table CCW in 268.43	Cyclohexanone	108-94-1	NA	FSUBS; or INCIN.
U058		Cyclophosphamide	50-18-0	CARBN; or INCIN	FSUBS; or INCIN.
U059		Daunomycin	20830-81-3	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U062		Diallate	2303-16-4	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U064		1,2,7,8-Dibenzopyrene	189-55-9	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.

				INCIN	
U074		cis-1,4-Dichloro-2-butene	1476-11-5	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
		trans-1,4-Dichloro-2-butene		(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U085		1,2:3,4-Diepoxybutane	1464-53-5	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U086		N,N-Diethylhydrazine	1615-80-1	CHOXD; CHRED; CARBN; BIODG; or INCIN	FSUBS; CHOXD; CHRED; or INCIN.
U087		0,0-Diethyl S-methyldithiophosphate	3288-58-2	CARBN; or INCIN	FSUBS; or INCIN.
U089		Diethyl stilbestrol	56-53-1	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U090		Dihydrosafrole	94-58-6	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U091		3,3'-Dimethoxybenzidine	119-90-4	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U092		Dimethylamine	124-40-3	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U093	Table CCW in 268.43	p-Dimethylaminoazobenzene	621-90-9	NA	INCIN.
U094		7,12-Dimethyl benz(a)anthracene	57-97-6	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN
U095		3,3'-Dimethylbenzidine	119-93-7	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U096		a,a-Dimethyl benzyl hydroperoxide	80-15-9	CHOXD; CHRED; CARBN; BIODG; or INCIN	FSUBS; CHOXD; CHRED; or INCIN.
U097		Dimethylcarbomyl chloride	79-44-7	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U098		1,1-Dimethylhydrazine	57-14-7	CHOXD; CHRED; CARBN; BIODG; or INCIN	FSUBS; CHOXD; CHRED; or INCIN.
U099		1,2-Dimethylhydrazine	540-73-8	CHOXD; CHRED; CARBN; BIODG; or INCIN	FSUBS; CHOXD; CHRED; or INCIN.
U103		Dimethyl sulfate	77-78-1	CHOXD; CHRED; CARBN; BIODG; or INCIN	FSUBS; CHOXD; CHRED; or INCIN.
U109		1,2-Diphenylhydrazine	122-66-7	CHOXD; CHRED; CARBN; BIODG; or INCIN	FSUBS; CHOXD; CHRED; or INCIN
U110		Dipropylamine	142-84-7	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U113		Ethyl acrylate	140-88-5	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U114		Ethylene bis-dithiocarbamic acid	111-54-6	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U115		Ethylene oxide	75-21-8	(WETOX or CHOXD) fb CARBN; or INCIN	CHOXD; or INCIN.
U116		Ethylene thiourea	96-45-7	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U119		Ethyl methane sulfonate	62-50-0	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.

TABLE 2.—TECHNOLOGY-BASED STANDARDS BY RCRA WASTE CODE—Continued

Waste code	See also	Waste descriptions and/or treatment subcategory	CAS No. for regulated hazardous constituents	Technology code	
				Wastewaters	Nonwastewaters
U122		Formaldehyde	50-00-0	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U123		Formic acid	64-18-6	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U124		Furan	110-00-9	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U125		Furfural	98-01-1	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U126		Glycidaldehyde	765-34-4	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U132		Hexachlorophenene	70-30-4	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U133		Hydrazine	302-01-2	CHOXD; CHRED; CARBN; BIODG; or INCIN	FSUBS; CHOXD; CHRED; or INCIN.
U134	Table CCW in 268.43	Hydrogen Flouride	7664-39-3	NA	ADGAS fb NEUTR; or NEUTR.
U135		Hydrogen Sulfide	7783-06-4	CHOXD; CHRED, or INCIN	CHOXD; CHRED; or INCIN.
U143		Lasiocarpine	303-34-4	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U147		Maleic anhydride	108-31-6	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U148		Maleic hydrazide	123-33-1	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U149		Malononitrile	109-77-3	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U150		Melphalan	148-82-3	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U151	Table CCWE in 268.41 and Table CCW in 268.43.	Mercury: (High Mercury Subcategory—greater than or equal to 260 mg/kg total Mercury).	7439-97-6	NA	RMERC.
U153		Methane thiol	74-93-1	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U154		Methanol	67-56-1	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U156		Methyl chlorocarbonate	79-22-1	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U160		Methyl ethyl ketone peroxide	1338-23-4	CHOXD; CHRED; CARBN; BIODG; or INCIN	FSUBS; CHOXD; CHRED; or INCIN.
U163		N-Methyl N'-nitro N-Nitrosoguanidine	70-25-7	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.

				(WETOX or CHOXD) fb CARBN; or INCIN	INCIN
U166		1,4-Naphthoquinone	130-15-4	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U167		1-Naphthlyamine	134-32-7	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U168	Table CCW in 268.43	2-Naphthlyamine	91-59-8	NA	INCIN.
U171		2-Nitropropane	79-46-9	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U173		N-Nitroso-di-n-ethanolamine	1116-54-7	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U176		N-Nitroso-N-ethylurea	759-73-9	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U177		N-Nitroso-N-methylurea	684-93-5	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U178		N-Nitroso-N-methylurethane	615-53-2	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U182		Paraldehyde	123-63-7	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U184		Pentachloroethane	76-01-7	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U186		1,3-Pentadiene	504-60-9	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U189		Phosphorus sulfide	1314-80-3	CHOXD; CHRED; or INCIN	CHOXD; CHRED; or INCIN.
U191		2-Picoline	109-06-8	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U193		1,3-Propane sultone	1120-71-4	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U194		n-Propylamine	107-10-8	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U197		p-Benzoquinone	106-51-4	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U200		Reserpine	50-55-5	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U201		Resorcinol	108-46-3	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U202		Saccharin and salts	81-07-2*	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U206		Streptozatocin	18883-66-4	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U213		Tetrahydrofuran	109-99-9	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U214	Table CCW in 268.43	Thallium (I) acetate	563-68-8	NA	RTHRM; or STABL.
U215	Table CCW in 268.43	Thallium (I) carbonate	6533-73-9	NA	RTHRM; or STABL.
U216	Table CCW in 268.43	Thallium (I) chloride	7791-12-0	NA	RTHRM; or STABL.
U217	Table CCW in 268.43	Thallium (I) nitrate	10102-45-1	NA	RTHRM; or STABL.
U218		Thioacetamide	62-55-5	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.

TABLE 2.—TECHNOLOGY-BASED STANDARDS BY RCRA WASTE CODE—Continued

Waste code	See also	Waste descriptions and/or treatment subcategory	CAS No. for regulated hazardous constituents	Technology code	
				Wastewaters	Nonwastewaters
U219		Thiourea	62-56-6	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U221		Toluenediamine	25376-45-8	CARBN; or INCIN	FSUBS; or INCIN.
U222		o-Toluidine hydrochloride	636-21-5	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U223		Toluene diisocyanate	26471-62-5	CARBN; or INCIN	FSUBS; or INCIN.
U234		sym-Trinitrobenzene	99-35-4	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U236		Trypan Blue	72-57-1	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U237		Uracil mustard	66-75-1	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U238		Ethyl carbamate	51-79-6	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U240		2,4-Dichlorophenoxyacetic (salts and esters)	94-75-7*	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U244		Thiram	137-26-8	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U246		Cyanogen bromide	506-68-3	CHOXD; WETOX; or INCIN	CHOXD; WETOX; or INCIN.
U248		Warfarin (greater than or equal to 3%)	81-81-2	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U249		Zinc Phosphide (< 10%)	1314-84-7	CHOXD; CHRED; or INCIN	CHOXD; CHRED; or INCIN.

* CAS Number given for parent compound only.
** This waste code exists in gaseous form and is not categorized as wastewater or nonwastewater forms.
NA—Not Applicable.

TABLE 3.—TECHNOLOGY-BASED STANDARDS FOR SPECIFIC RADIOACTIVE HAZARDOUS MIXED WASTE

Waste code	Waste descriptions and/or treatment subcategory	CAS Number	Technology code	
			Wastewaters	Nonwastewaters
D002	Radioactive High Level Wastes Generated During the Reprocessing of Fuel Rods Subcategory	NA	NA	HLVIT
D004	Radioactive High Level Wastes Generated During the Reprocessing of Fuel Rods Subcategory	NA	NA	HLVIT
D005	Radioactive High Level Wastes Generated During the Reprocessing of Fuel Rods Subcategory	NA	NA	HLVIT
D006	Radioactive High Level Wastes Generated During the Reprocessing of Fuel Rods Subcategory	NA	NA	HLVIT
D007	Radioactive High Level Wastes Generated During the Reprocessing of Fuel Rods Subcategory	NA	NA	HLVIT

	shielding, and other elemental forms of lead. These lead solids do not include treatment residuals such as hydroxide sludges, other wastewater treatment residuals, or incinerator ashes that can undergo conventional pozzolanic stabilization, nor do they include organo-lead materials that can be incinerated and stabilized as ash.)		NA	MACRO
D008	Radioactive High Level Wastes Generated During the Reprocessing of Fuel Rods Subcategory	NA	NA	HLVIT
D009	Elemental mercury contaminated with radioactive materials	7439-97-6	NA	AMLGM
D009	Hydraulic oil contaminated with Mercury Radioactive Materials Subcategory	7439-97-6	NA	INCIN
D009	Radioactive High Level Wastes Generated During the Reprocessing of Fuel Rods Subcategory	NA	NA	HLVIT
D010	Radioactive High Level Wastes Generated During the Reprocessing of Fuel Rods Subcategory	NA	NA	HLVIT
D011	Radioactive High Level Wastes Generated During the Reprocessing of Fuel Rods Subcategory	NA	NA	HLVIT
U151	Mercury: Elemental mercury contaminated with radioactive materials	7439-97-6	NA	AMLGM

NA—Not Applicable.

(b) Any person may submit an application to the Administrator demonstrating that an alternative treatment method can achieve a measure of performance equivalent to that achievable by methods specified in paragraphs (a), (c), and (d) of this section. The applicant must submit information demonstrating that his treatment method is in compliance with federal, state, and local requirements and is protective of human health and the environment. On the basis of such information and any other available information, the Administrator may approve the use of the alternative treatment method if he finds that the alternative treatment method provides a measure of performance equivalent to that achieved by methods specified in paragraphs (a), (c), and (d) of this section. Any approval must be stated in writing and may contain such provisions and conditions as the Administrator deems appropriate. The person to whom such approval is issued must comply with all limitations contained in such a determination.

(c) As an alternative to the otherwise applicable subpart D treatment standards, lab packs are eligible for land disposal provided the following requirements are met:

(1) The lab packs comply with the applicable provisions of 40 CFR 264.316 and 40 CFR 265.316;

(2) All hazardous wastes contained in such lab packs are specified in appendix IV or appendix V to part 268;

(3) The lab packs are incinerated accordance with the requirements 40 CFR part 264, subpart O or 40 C part 265, subpart O; and

(4) Any incinerator residues from packs containing D004, D005, D0 D007, D008, D010, and D011 are tre ed in compliance with the applica treatment standards specified for su wastes in subpart D of this part.

(d) Radioactive hazardous mix wastes with treatment standards spe fied in Table 3 of this section are n subject to any treatment standar specified in § 268.41, § 268.43, or Tab 2 of this section. Radioactive hazar ous mixed wastes not subject to trea ment standards in Table 3 of this se tion remain subject to all applicab treatment standards specified § 268.41, § 268.43, and Table 2 of th section.

[51 FR 40642, Nov. 7, 1986, as amended at FR 25790, July 8, 1987; 55 FR 22692, June 1990]

§ 268.43 Treatment standards expressed waste concentrations.

(a) Table CCW identifies the re stricted wastes and the concentration of their associated hazardous constitu ents which may not be exceeded by the waste or treatment residual (no an extract of such waste or residual for the allowable land disposal of such waste or residual. Compliance with these concentrations is required based upon grab samples, unless otherwise noted in the following Table CCW.

TABLE CCW.—CONSTITUENT CONCENTRATIONS IN WASTES

Waste code	See also	Regulated hazardous constituent	CAS No. for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewater concentratio (mg/kg)
D003 (Reactive cyanides subcategory—based on 261.23(a)(5)).	....	Cyanides (Total) Cyanides (Amenable)	57-12-5 57-12-5	Reserved 0.86	# 590 30
D004	Table CCWE in 268.41	Arsenic	7440-38-2	5.0	NA
D005	Table CCWE in 268.41	Barium	7440-39-3	100	NA
D006	Table CCWE in 268.41	Cadmium	7440-43-9	1.0	NA
D007	Table CCWE in 268.41	Chromium (Total)	7440-47-32	5.0	NA
D008	Table CCWE in 268.41	Lead	7439-92-1	5.0	NA
D009	Table CCWE in 268.41	Mercury	7439-97-6	0.20	NA
D010	Table CCWE in 268.41	Selenium	7782-49-2	1.0	NA
D011	Table CCWE in 268.41	Silver	7440-22-4	5.0	NA
D012	Table 2 in 268.42	Endrin	720-20-8	NA	0.13
D013	Table 2 in 268.42	Lindane	58-89-9	NA	0.066
D014	Table 2 in 268.42	Methoxychlor	72.43-5	NA	0.18

TABLE CCW.—CONSTITUENT CONCENTRATIONS IN WASTES—Continued

Waste code	See also	Regulated hazardous constituent	CAS No. for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewaters concentration (mg/kg)
D015	Table 2 in 268.42	Toxaphene	8001-35-1	NA	1.3
D016	Table 2 in 268.42	2,4-D	94-75-7	NA	10.0
D017	Table 2 in 268.42	2,4,5-TP Silvex	93-76-5	NA	7.9
F001-F005 spent solvents.	Table CCWE in 268.41 and Table 2 in 268.42	1,1,2-Trichloroethane	71-55-6	0.030	* 7.6
		Benzene	71-43-2	0.070	* 3.7
F001-F005 spent solvents (Pharmaceutical industry wastewater subcategory).		Methylene chloride	75-09-2	0.44	NA
F006	Table CCWE in 268.41	Cyanides (Total)	57-12-5	1.2	590
		Cyanides (Amenable)	57-12-5	0.86	30
		Cadmium	7440-43-9	1.6	NA
		Chromium	7440-47-32	0.32	NA
		Lead	7439-92-1	0.040	NA
		Nickel	7440-02-0	0.44	NA
F007	Table CCWE in 268.41	Cyanides (Total)	57-12-5	1.9	590
		Cyanides (Amenable)	57-12-5	0.1	30
		Chromium (Total)	7440-47-32	0.32	NA
		Lead	7439-92-1	0.04	NA
		Nickel	7440-02-0	0.44	NA
F008	Table CCWE in 268.41	Cyanides (Total)	57-12-5	1.9	590
		Cyanides (Amenable)	57-12-5	0.1	30
		Chromium	7440-47-32	0.32	NA
		Lead	7439-92-1	0.04	NA
		Nickel	7440-02-0	0.44	NA
F009	Table CCWE in 268.41	Cyanides (Total)	57-12-5	1.9	590
		Cyanides (Amenable)	57-12-5	0.1	30
		Chromium	7440-47-32	0.32	NA
		Lead	7439-92-1	0.04	NA
		Nickel	7440-02-0	0.44	NA
F010		Cyanides (Total)	57-12-5	1.9	1.5
		Cyanides (Amenable)	57-12-5	0.1	NA
F011	Table CCWE in 268.41	Cyanides (Total)	57-12-5	1.9	110
		Cyanides (Amenable)	57-12-5	0.1	9.1
		Chromium (Total)	7440-47-32	0.32	NA
		Lead	7439-92-1	0.04	NA
		Nickel	7440-02-0	0.44	NA
F012	Table CCWE in 268.41	Cyanides (Total)	57-12-5	1.9	110
		Cyanides (Amenable)	57-12-5	0.1	9.1
		Chromium (Total)	7440-47-32	0.32	NA
		Lead	7439-92-1	0.04	NA
		Nickel	7440-02-0	0.44	NA
F019	Table CCWE in 268.41	Cyanides (Total)	57-12-5	1.2	* 590
		Cyanides (Amenable)	57-12-5	0.86	* 30
		Chromium (Total)	7440-47-32	0.32	NA
F024	Table CCWE in 268.41 and Table 2 in 268.42 (Note: F024 organic standards must be treated via incineration (INCIN)).	2-Chloro-1,3-butadiene	126-99-8	* 0.28	* 0.28
		3-Chloropropene	107-05-1	* 0.28	* 0.28
		1,1-Dichloroethane	75-34-3	* 0.014	* 0.014
		1,2-Dichloroethane	107-06-2	* 0.014	* 0.014
		1,2-Dichloropropane	78-87-5	* 0.014	* 0.014
		cis-1,3-Dichloropropene	10061-01-5	* 0.014	* 0.014
		trans-1,3-Dichloropropene.	10061-02-6	* 0.014	* 0.014
		Bis(2-ethylhexyl)phthalate.	117-81-7	* 0.036	* 1.8
		Hexachloroethane	67-72-1	* 0.036	* 1.8
		Chromium (Total	7440-47-32	0.35	NA
		Nickel	7440-02-0	0.47	NA
F025 (Light ends subcategory).		Chloroform	67-66-3	* 0.046	* 6.2
		1,2-Dichloroethane	107-06-2	* 0.21	* 6.2

TABLE CCW.—CONSTITUENT CONCENTRATIONS IN WASTES—Continued

Waste code	See also	Regulated hazardous constituent	CAS No. for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewat concentrat (mg/kg
		1,1-Dichloroethylene	75-35-4	*0.025	*6
		Methylene chloride	75-9-2	*0.089	*3
		Carbon tetrachloride	56-23-5	*0.057	*6
		1,1,2-Trichloroethane	79-00-5	*0.054	*6
		Trichloroethylene	79-01-6	*0.054	*5
		Vinyl chloride	75-01-4	*0.27	*3
		Chloroform	67-66-3	*0.046	*6
F025 (Spent filters/aids and desiccants subcategory).		Methylene chloride	75-9-2	*0.089	*3
		Carbon tetrachloride	56-23-5	*0.057	*6.2
		1,1,2-Trichloroethane	79-00-5	*0.054	*6.2
		Trichloroethylene	79-01-6	*0.054	*5.6
		Vinyl chloride	75-01-4	*0.27	*33
		Hexachlorobenzene	118-74-1	*0.055	*37
		Hexachlorobutadiene	87-68-3	*0.055	*28
		Hexachloroethane	67-72-1	*0.055	*30
F039	Table CCWE in 268.41	Acetone	67-64-1	*0.28	*160
		Acenaphtalene	208-96-8	*0.059	*3.4
		Acenaphthene	83-32-9	*0.059	*4.0
		Acetonitrile	75-05-8	*0.17	NA
		Acetophenone	96-86-2	*0.010	*9.7
		2-Acetylaminofluorene	53-96-3	*0.059	*140
		Acrylonitrile	107-13-1	*0.24	*84
		Aldrin	309-00-2	*0.021	*0.066
		4-Aminobiphenyl	92-67-1	*0.13	NA
		Aniline	62-53-3	*0.81	*14
		Anthracene	120-12-7	*0.059	*4.0
		Aroclor 1016	12674-11-2	*0.013	*0.92
		Aroclor 1221	11104-28-2	*0.014	*0.92
		Aroclor 1232	11141-16-5	*0.013	*0.92
		Aroclor 1242	53469-21-9	*0.017	*0.92
		Aroclor 1248	12672-29-6	*0.013	*0.92
		Aroclor 1254	11097-69-1	*0.014	*1.8
		Aroclor 1260	11096-82-5	*0.014	*1.8
		alpha-BHC	319-84-6	*0.00014	*0.066
		beta-BHC	319-85-7	*0.00014	*0.066
		delta-BHC	319-86-8	*0.023	*0.066
		gamma-BHC	58-89-9	*0.0017	*0.066
		Benzene	71-43-2	*0.14	*36
		Benzo(a)anthracene	56-55-3	*0.059	*8.2
		Benzo(b)fluoranthene	205-99-2	*0.055	*3.4
		Benzo(k)fluoranthene	207-08-9	*0.059	*3.4
		Benzo(g,h,i)perylene	191-24-2	*0.0055	*1.5
		Benzo(a)pyrene	50-32-8	*0.061	*8.2
		Bromodichloromethane	75-27-4	*0.35	*15
		Bromoform	75-25-2	*0.63	*15
		Bromomethane (methyl bromide).	74-83-9	*0.11	*15
		4-Bromophenyl phenyl ether.	101-55-3	*0.055	*15
		n-Butyl alcohol	71-36-3	*5.6	*2.6
		Butyl benzyl phthalate	85-68-7	*0.017	*7.9
		2-sec-Butyl-4,6-dinitrophenol.	88-85-7	*0.066	*2.5
		Carbon tetrachloride	56-23-5	*0.057	*5.6
		Carbon disulfide	75-15-0	*0.014	NA
		Chlordane	57-74-9	*0.0033	*0.13
		p-Chloroaniline	106-47-8	*0.46	*16
		Chlorobenzene	108-90-7	*0.057	*5.7
		Chlorobenzilate	510-15-6	*0.10	*NA
		Chlorodibromomethane	124-48-1	*0.057	*16
		Chloroethane	75-00-3	*0.27	*6.0
		bis(2-Chloroethoxy) methane.	111-91-1	*0.036	*7.2
		bis(2-Chloroethyl) ether	111-44-4	*0.033	*7.2
		2-Chloroethyl vinyl ether		*0.057	NA
		Chloroform	67-66-3	*0.046	*5.6

TABLE CCW.—CONSTITUENT CONCENTRATIONS IN WASTES—Continued

Waste code	See also	Regulated hazardous constituent	CAS No. for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewaters concentration (mg/kg)
		bis(2-Chloroisopropyl) ether	39638-32-9	'0.055	* 7.2
		p-Chloro-m-cresol	59-50-7	'0.018	* 14
		Chloromethane (Methyl chloride)	74-87-3	'0.19	* 33
		2-Chloronaphthalene	91-8-7	'0.055	* 5.6
		2-Chlorophenol	95-57-8	'0.044	* 5.7
		3-Chloropropene	107-05-1	'0.036	* 28
		Chrysene	218-01-9	'0.059	* 8.2
		o-Cresol	95-48-7	'0.11	* 5.6
		Cresol (m- and p-isomers)		'0.77	* 3.2
		Cyclohexanone	108-94-1	'0.36	NA
		1,2-Dibromo-3-chloropropane	96-12-8	'0.11	* 15
		1,2-Dibromoethane (Ethylene dibromide)	106-93-4	'0.028	* 15
		Dibromomethane	74-95-3	'0.11	* 15
		2,4-Dichlorophenoxyacetic acid (2,4-D)	94-75-7	'0.72	* 10
		o,p'-DDD	53-19-0	'0.023	* 0.087
		p,p'-DDD	72-54-8	'0.023	* 0.087
		o,p'-DDE	3424-82-6	'0.031	* 0.087
		p,p'-DDE	72-55-9	'0.031	* 0.087
		o,p'-DDT	789-02-6	'0.0039	* 0.087
		p,p'-DDT	50-29-3	'0.0039	* 0.087
		Dibenzo(a,h)anthracene	53-70-3	'0.055	* 8.2
		m-Dichlorobenzene	541-73-1	'0.036	* 6.2
		o-Dichlorobenzene	95-50-1	'0.088	* 6.2
		p-Dichlorobenzene	106-46-7	'0.090	* 6.2
		Dichlorodifluoromethane	75-71-8	'0.23	* 7.2
		1,1-Dichloroethane	75-34-3	'0.059	* 7.2
		1,2-Dichloroethane	107-06-2	'0.21	* 7.2
		1,1-Dichloroethylene	75-35-4	'0.025	* 33
		trans-1,2-Dichloroethene		'0.054	* 33
		2,4-Dichlorophenol	120-83-2	'0.044	* 14
		2,6-Dichlorophenol	87-65-0	'0.044	* 14
		1,2-Dichloropropane	78-87-5	'0.85	* 18
		cis-1,3-Dichloropropene	10061-01-5	'0.036	* 18
		trans-1,3-Dichloropropene	10061-02-6	'0.036	* 18
		Dieldrin	60-57-1	'0.017	* 0.13
		Diethyl phthalate	84-66-2	'0.20	* 28
		p-Dimethylaminoazobenzene	60-11-3	'0.13	NA
		2,4-Dimethyl phenol	105-67-9	'0.036	* 14
		Dimethyl phthalate	131-11-3	'0.047	* 28
		Di-n-butyl phthalate	84-74-2	'0.057	* 28
		1,4-Dinitrobenzene	100-25-4	'0.32	* 2.3
		4,6-Dinitro-o-cresol	534-52-1	'0.28	* 160
		2,4-Dinitrophenol	51-28-5	'0.12	* 160
		2,4-Dinitrotoluene	121-14-2	'0.32	* 140
		2,6-Dinitrotoluene	606-20-2	'0.55	* 28
		Di-n-octyl phthalate	117-84-0	'0.017	* 28
		Di-n-propylnitrosoamine	621-64-7	'0.40	* 14
		1,2-Diphenyl hydrazine		'0.087	NA
		1,4-Dioxane	123-91-1	'0.12	* 170
		Disulfoton	298-04-4	'0.017	* 6.2
		Endosulfan I	939-98-8	'0.023	* 0.066
		Endosulfan II	33213-6-5	'0.029	* 0.13
		Endosulfan sulfate	1-31-07-8	'0.029	* 0.13
		Endrin	7-20-8	'0.0028	* 0.13
		Endrin aldehyde	7421-93-4	'0.025	* 0.13
		Ethyl acetate	141-78-6	'0.34	* 33
		Ethyl cyanide		'0.24	NA

TABLE CCW.—CONSTITUENT CONCENTRATIONS IN WASTES—Continued

Waste code	See also	Regulated hazardous constituent	CAS No. for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastew concentr (mg/k
		Ethyl benzene	100-41-4	*0.057	*
		Ethyl ether	60-29-7	*0.12	*
		bis(2-Ethylhexyl) phthalate	117-81-7	*0.28	*
		Ethyl methacrylate	97-63-2	*0.14	*
		Ethylene oxide	75-21-8	*0.12	
		Famphur	52-85-7	*0.017	*
		Fluoranthene	206-44-0	*0.068	*
		Fluorene	86-73-7	*0.059	*
		Fluorotrichloromethane	75-69-4	*0.020	*
		Heptachlor	76-44-8	*0.0012	*0.0
		Heptachlor epoxide	1024-57-3	*0.016	*0.0
		Hexachlorobenzene	118-74-1	*0.055	*
		Hexachlorobutadiene	87-68-3	*0.055	*
		Hexachlorocyclopentadiene.	77-47-4	*0.057	*3
		Hexachlorodibenzo-furans.		*0.000063	*0.00
		Hexachlorodibenzo-p-dioxins.		*0.000063	*0.00
		Hexachloroethane	67-72-1	*0.055	*2
		Hexachloropropene	1888-71-7	*0.035	*2
		Indeno(1,2,3,-c,d)pyrene	193-39-5	*0.0055	*8
		Iodomethane	74-88-4	*0.019	*6
		Isobutanol	78-83-1	*5.6	*17
		Isodrin	465-73-6	*0.021	*0.06
		Isosafrole	120-58-1	*0.081	*2
		Kepone	143-50-8	*0.0011	*0.13
		Methacrylonitrile	126-98-7	*0.24	*8
		Methapyrilene	91-80-5	*0.081	*1.5
		Methoxychlor	72-43-5	*0.25	*0.1
		3-Methylcholanthrene	56-49-5	*0.0055	*15
		4,4-Methylene-bis-(2-chloroaniline).	101-14-4	*0.50	*35
		Methylene chloride	75-09-2	*0.089	*33
		Methyl ethyl ketone	78-93-3	*0.28	*36
		Methyl isobutyl ketone	108-10-1	*0.14	*33
		Methyl methacrylate	80-62-6	*0.14	*160
		Methyl methansulfonate		*0.018	NA
		Methyl parathion	298-00-0	*0.014	*4.6
		Naphthalene	91-20-3	*0.059	*3.1
		2-Naphtylamine	91-59-8	*0.52	NA
		p-Nitroaniline	100-01-6	*0.028	*28
		Nitrobenzene	98-95-3	*0.068	*14
		5-Nitro-o-toluidine	99-55-8	*0.32	*28
		4-Nitrophenol	100-02-7	*0.12	*29
		N-Nitrosodiethylamine	55-18-5	*0.40	*28
		N-Nitrosodimethylamine	62-75-9	*0.40	NA
		N-Nitroso-di-n-butylamine.	924-16-3	*0.40	*17
		N-Nitrosomethylethylamine.	10595-95-6	*0.40	*2.3
		N-Nitrosomorpholine	59-89-2	*0.40	*2.3
		N-Nitrosopiperidine	100-75-4	*0.013	*35
		N-Nitrosopyrrolidine	930-55-2	*0.013	*35
		Parathion	56-38-2	*0.017	*4.6
		Pentachlorobenzene	608-93-5	*0.055	*37
		Pentachlorodibenzo-furans.		*0.000035	*0.00
		Pentachlorodibenzo-p-dioxins.		*0.000063	*0.00
		Pentachloronitrobenzene.	82-68-8	*0.055	*4.8
		Pentachlorophenol	87-86-5	*0.089	*7.4
		Phenacetin	62-44-2	*0.081	*16
		Phenanthrene	85-01-8	*0.059	*3.1
		Phenol	108-95-2	*0.039	*6.2

TABLE CCW.—CONSTITUENT CONCENTRATIONS IN WASTES—Continued

Waste code	See also	Regulated hazardous constituent	CAS No. for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewaters concentration (mg/kg)
		Phorate	298-02-2	' 0.021	* 4.6
		Propanenitrile (ethyl cyanide)	107-12-0	' 0.24	* 360
		Pronamide	23950-58-5	' 0.093	* 1.5
		Pyrene	129-00-0	' 0.067	* 8.2
		Pyridine	110-86-1	' 0.014	* 16
		Safrole	94-59-7	' 0.081	* 22
		Silvex (2,4,5-TP)	93-72-1	' 0.72	* 7.9
		2,4,5-T	93-76-5	' 0.72	* 7.9
		1,2,4,5,-Tetrachlorobenzene	95-94-3	' 0.055	* 19
		Tetrachlorodibenzo-furans		' 0.000063	* 0.001
		Tetrachlorodibenzo-p-dioxins		' 0.000063	* 0.001
		2,3,7,8-Tetrachlorodibenzo-p-dioxin		' 0.000063	NA
		1,1,1,2-Tetrachloroethane	630-20-6	' 0.057	* 42
		1,1,2,2-Tetrachloroethane	79-34-6	' 0.057	* 42
		Tetrachloroethene	127-18-4	' 0.056	* 5.6
		2,3,4,6-Tetrachlorophenol	58-90-2	' 0.030	* 37
		Toluene	108-88-3	' 0.080	* 28
		Toxaphene	8001-35-1	' 0.0095	* 1.3
		1,2,4-Trichlorobenzene	120-82-1	' 0.055	* 19
		1,1,1-Trichloroethane	71-55-6	' 0.054	* 5.6
		1,1,2-Trichloroethane	79-00-5	' 0.054	* 5.6
		Trichloroethylene	79-01-6	' 0.054	* 5.6
		2,4,5-Trichlorophenol	95-95-4	' 0.18	* 37
		2,4,6-Trichlorophenol	88-06-2	' 0.035	* 37
		1,2,3-Trichloropropane	96-18-4	' 0.85	* 28
		1,1,2-Trichloro-1,2,2-trifluoro-ethane	76-13-1	' 0.057	* 28
		Vinyl chloride	75-01-4	' 0.27	* 33
		Xylene(s)		' 0.32	* 28
		Cyanides (Total)	57-12-5	' 1.2	* 1.8
		Cyanides (Amenable)	57-12-5	' 0.86	NA
		Fluoride	16964-48-8	' 35	NA
		Sulfide	8496-25-8	' 14	NA
		Antimony	7440-36-0	' 1.9	NA
		Arsenic	7440-38-2	' 5.0	NA
		Barium	7440-39-3	' 1.2	NA
		Beryllium	7440-41-7	' 0.82	NA
		Cadmium	7440-43-9	' 0.20	NA
		Chromium (Total)	7440-47-32	' 0.37	NA
		Copper	7440-50-8	' 1.3	NA
		Lead	7439-92-1	' 0.28	NA
		Mercury	7439-97-6	' 0.15	NA
		Nickel	7440-02-0	' 0.55	NA
		Selenium	7782-49-2	' 0.82	NA
		Silver	7440-22-4	' 0.29	NA
		Vanadium	7440-62-2	' 0.042	NA
K001	Table CCWE in 268.41	Naphthalene	91-20-3	* 0.031	* 1.5
		Pentachlorophenol	87-86-5	* 0.031	* 1.5
		Phenanthrene	85-01-8	* 0.031	* 1.5
		Pyrene	129-00-0	* 0.028	* 1.5
		Toluene	108-88-3	* 0.028	* 28
		Xylenes (Total)		* 0.032	* 33
		Lead	7439-92-1	* 0.037	NA
K002	Table CCWE in 268.41	Chromium (Total)	7440-47-32	' 2.9	NA
		Lead	7439-92-1	' 3.4	NA
K003	Table CCWE in 268.41	Chromium (Total)	7440-47-32	' 2.9	NA
		Lead	7439-92-1	' 3.4	NA
K004	Table CCWE in 268.41	Chromium (Total)	7440-47-32	' 2.9	NA
		Lead	7439-92-1	' 3.4	NA

TABLE CCW.—CONSTITUENT CONCENTRATIONS IN WASTES—Continued

Waste code	See also	Regulated hazardous constituent	CAS No. for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewaters concentration (mg/kg)
K005	Table CCWE in 268.41	Chromium (Total)	7440-47-32	*2.9	NA
		Lead	7439-92-1	*3.4	NA
		Cyanides (Total)	57-12-5	*0.74	(4)
K006	Table CCWE in 268.41	Chromium (Total)	7440-47-32	*2.9	NA
		Lead	7439-92-1	*3.4	NA
K007	Table CCWE	Chromium (Total)	7440-47-32	*2.9	NA
		Lead	7439-92-1	*3.4	*NA
		Cyanides (Total)	57-12-5	*0.74	
K008	Table CCWE in 268.41	Chromium (Total)	7440-47-32	*2.9	NA
		Lead	7439-92-1	*3.4	NA
K009		Chloroform	67-66-3	0.1	*6.0
K010		Chloroform	67-66-3	0.1	6.0
K011		Acetonitrile	75-05-8	38	1.8
		Acrylonitrile	107-13-1	0.06	1.4
		Acrylamide	79-06-1	19	23
		Benzene	71-43-2	0.02	0.03
		Cyanide (Total)	57-12-5	21	57
K013		Acetonitrile	75-05-8	38	*1.8
		Acrylonitrile	107-13-1	0.06	*1.4
		Acrylamide	79-06-1	19	*23
		Benzene	71-43-2	0.02	*0.03
		Cyanide (Total)	57-12-5	21	57
K014		Acetonitrile	75-05-8	38	*1.8
		Acrylonitrile	107-13-1	0.06	*1.4
		Acrylamide	79-06-1	19	*23
		Benzene	71-43-2	0.02	*0.03
		Cyanide (Total)	57-12-5	21	57
K015	Table CCWE in 268.41	Anthracene	120-12-7	1.0	*3.4
		Benzal chloride	98-87-3	0.28	*6.2
		Sum of Benzo(b)fluoranthene and Benzo(k)fluoranthene.	205-99-2 207-08-9	0.029	3.4
		Phenanthrene	85-01-8	0.27	*3.4
		Toluene	108-88-3	0.15	*6.0
		Chromium (Total)	7440-47-32	0.32	NA
		Nickel	7440-02-0	0.44	NA
K016		Hexachlorobenzene	118-74-1	*0.033	*28
		Hexachlorobutadiene	87-68-3	*0.007	*5.6
		Hexachlorocyclopentadiene.	77-47-4	*0.007	*5.6
		Hexachloroethane	67-72-1	*0.033	*28
		Tetrachloroethene	127-18-4	*0.007	*6.0
K017		1,2-Dichloropropane	78-87-5	*,@ 0.85	*18
		1,2,3-Trichloropropane	96-18-4	*,@ 0.85	*28
		Bis(2-chloroethyl)ether	111-44-4	*,@ 0.033	*7.2
K018		Chloroethane	75-00-3	*0.007	*6.0
		1,1-Dichloroethane	75-34-3	*0.007	*6.0
		1,2-Dichloroethane	107-06-2	*0.007	*6.0
		Hexachloroethane	67-72-1	*0.007	*28
		Hexachlorobutadiene	87-68-3	*0.033	*5.6
		Hexachloroethane	67-72-1	*0.007	*28
		Pentachloroethane	76-01-7	*0.007	*5.6
		1,1,1-Trichloroethane	71-55-6	*0.007	*6.0
K019		Bis(2-chloroethyl)ether	111-44-4	*0.007	*5.6
		Chlorobenzene	108-90-7	*0.006	*6.0
		Chloroform	67-66-3	*0.007	*6.0
		p-Dichlorobenzene	106-46-7	*0.008	NA
		1,2-Dichloroethane	107-06-2	*0.007	*6.0
		Fluorene	86-73-7	*0.007	NA
		Hexachloroethane	67-72-1	*0.033	*28
		Naphthalene	91-20-3	*0.007	*5.6
		Phenanthrene	85-01-8	*0.007	*5.6
		1,2,4,5-Tetrachlorobenzene.	95-94-3	*0.017	NA
		Tetrachloroethene	127-18-4	*0.007	*6.0
		1,2,4-Trichlorobenzene	120-82-1	*0.023	*19
		1,1,1-Trichloroethane	71-55-6	*0.007	*6.0

TABLE CCW.—CONSTITUENT CONCENTRATIONS IN WASTES—Continued

Waste code	See also	Regulated hazardous constituent	CAS No. for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewaters concentration (mg/kg)
K020		1,2-Dichloroethane	106-93-4	• 0.007	• 6.0
		1,1,2,2-Tetrachloroethane.	79-34-6	• 0.007	• 5.6
		Tetrachloroethene	127-18-4	• 0.007	• 6.0
K021	Table CCWE in 268.41	Chloroform	67-66-3	* 0.046	• 6.2
		Carbon tetrachloride	56-23-5	* 0.057	• 6.2
		Antimony	7440-36-0	* 0.60	NA
K022	Table CCWE in 268.41	Toluene	108-88-3	* 0.080	• 0.034
		Acetophenone	96-86-2	0.010	• 19
		Diphenylamine	22-39-4	* 0.52	NA
		Diphenylnitrosamine	86-30-6	* 0.40	NA
		Sum of Diphenylamine and Diphenylnitrosamine.		NA	• 13
		Phenol	108-95-2	0.039	• 12
		Chromium (Total)	7440-47-32	0.35	NA
		Nickel	7440-02-0	0.47	NA
023		Phthalic anhydride (measured as Phthalic acid).	85-44-9	• 0.54	• 28
024		Phthalic anhydride (measured as Phthalic acid).	85-44-9	• 0.54	• 28
028	Table CCWE in 268.41	1,1-Dichloroethane	75-34-3	• 0.007	• 6.0
		trans-1,2-Dichloroethane.		• 0.033	• 6.0
		Hexachlorobutadiene	87-68-3	• 0.007	• 5.6
		Hexachloroethane	67-72-1	• 0.033	• 28
		Pentachloroethane	76-01-7	• 0.033	• 5.6
		1,1,1,2-Tetrachloroethane.	630-20-6	• 0.007	• 5.6
		1,1,2,2-Tetrachloroethane.	79-34-6	• 0.007	• 5.6
		1,1,1-Trichloethane	71-55-6	• 0.007	• 6.0
		1,1,2-Trichlorethane	79-00-5	• 0.007	• 6.0
		Tetrachloroethylene	127-18-4	• 0.007	• 6.0
		Cadmium	7440-43-9	6.4	NA
		Chromium (Total)	7440-47-32	0.35	NA
		Lead	7439-92-1	0.037	NA
		Nickel	7440-02-0	0.47	NA
29		Chloroform	67-66-3	0.46	• 6.0
		1,2-Dichloroethane	107-06-2	0.21	• 6.0
		1,1-Dichloroethylene	75-35-4	0.025	• 6.0
		1,1,1-Trichloroethane	71-55-6	0.054	• 6.0
		Vinyl chloride	75-01-4	0.27	• 6.0
30		o-Dichlorobenzene	95-50-1	• 0.008	NA
		p-Dichlorobenzene	106-46-7	• 0.008	NA
		Hexachlorobutadiene	87-68-3	• 0.007	• 5.6
		Hexachlorobutadiene	67-72-1	• 0.033	• 28
		Hexachloropropene	1888-71-7	NA	• 19
		Pentachlorobenzene	608-93-5	NA	• 28
		Pentachloroethane	76-01-7	• 0.007	• 5.6
		1,2,4,5-Tetrachlorobenzene.	95-94-3	• 0.017	• 14
		Tetrachloroethane	127-18-4	• 0.007	• 6.0
		1,2,4-Trichlorobenzene	120-82-1	• 0.023	• 19
1	Table CCWE in 268.41	Arsenic	7440-38-2	0.79	NA
2		Hexachloropentadiene	77-47-4	* 0.057	• 2.4
		Chlordane	57-74-9	* 0.0033	• 0.26
		Heptachlor	76-44-8	* 0.012	• 0.066
		Heptachlor epoxide	1024-57-3	* 0.016	• 0.066
3		Hexachlorocyclopentadiene.	77-47-4	* 0.057	• 2.4
4		Hexachlorocyclopentadiene.	77-47-4	* 0.057	• 2.4
5		Acenaphthene	83-32-9	NA	• 3.4
		Anthracene	120-12-7	NA	• 3.4
		Benz(a)anthracene	56-55-3	* 0.059	• 3.4

TABLE CCW.—CONSTITUENT CONCENTRATIONS IN WASTES—Continued

Waste code	See also	Regulated hazardous constituent	CAS No. for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewaters concentration (mg/kg)
		Benzo(a)pyrene	50-32-8	NA	*3.4
		Chrysene	218-01-9	*0.059	*3.4
		Dibenz(a,h)anthracene	53-70-3	NA	*3.4
		Fluoranthene	206-44-0	*0.068	*3.4
		Fluorene	86-73-7	NA	*3.4
		Indeno(1,2,3-cd)pyrene	193-39-5	NA	*3.4
		Cresols (m- and p-isomers).		*0.77	NA
		Naphthalene	91-20-3	*0.059	*3.4
		o-cresol	95-48-7	*0.11	NA
		Phenanthrene	85-01-8	*0.059	*3.4
		Phenol	108-95-2	0.039	NA
		Pyrene	129-00-0	*0.067	*8.2
K036		Disulfoton	298-04-4	*0.025	*0.1
K037		Disulfoton	298-04-4	*0.025	*0.1
		Toluene	108-88-3	*0.080	*28
K038		Phorate	298-02-2	0.025	*0.1
K040		Phorate	298-02-2	0.025	*0.1
K041		Toxaphene	8001-35-1	*0.0095	*2.6
K042		1,2,4,5-Tetrachlorobenzene.	95-94-3	*0.055	*4.4
		o-Dichlorobenzene	95-50-1	*0.088	*4.4
		p-Dichlorobenzene	106-46-7	*0.090	*4.4
		Pentachlorobenzene	608-93-5	*0.055	*4.4
		1,2,4-Trichlorobenzene	120-82-1	*0.055	*4.4
K043		2,4-Dichlorophenol	120-83-2	*0.049	*0.38
		2,6-Dichlorophenol	87-65-0	*0.013	*0.34
		2,4,5-Trichlorophenol	95-95-4	*0.016	*8.2
		2,4,6-Trichlorophenol	88-06-2	*0.039	*7.6
		Tetrachlorophenols (Total).		*0.018	*0.68
		Pentachlorophenol	87-86-5	*0.22	*1.9
		Tetrachloroethene	79-01-6	*0.006	*1.7
		Hexachlorodibenzo-p-dioxins.		*0.001	*0.001
		Hexachlorodibenzo-furans.		*0.001	*0.001
		Pentachlorodibenzo-p-dioxins.		*0.001	*0.001
		Pentachlorodibenzo-furans.		*0.001	*0.001
		Tetrachlorodibenzo-p-dioxins.		*0.001	*0.001
		Tetrachlorodibenzo-furans.		*0.001	*0.001
K046	Table CCWE in 268.41	Lead	7439-92-1	0.037	NA
K048	Table CCWE in 268.41	Benzene	71-43-2	*0.011	*14
		Benzo(a)pyrene	50-32-8	*0.047	*12
		Bis(2-ethylhexyl)phthalate.	117-81-7	*0.043	*7.3
		Chrysene	218-01-9	*0.043	*15
		Di-n-butyl phthalate	84-74-2	*0.06	*3.6
		Ethylbenzene	100-41-4	*0.011	*14
		Fluorene	86-73-7	*0.05	NA
		Naphthalene	91-20-3	*0.033	*42
		Phenanthrene	85-01-8	*0.039	*34
		Phenol	108-95-2	*0.047	*3.6
		Pyrene	129-00-0	*0.045	*36
		Toluene	108-88-3	*0.011	*14
		Xylene(s)		*0.011	*22
		Cyanides (Total)	57-12-5	*0.028	*1.8
		Chromium (Total)	7440-47-32	0.2	NA
		Lead	7439-92-1	0.037	NA
K049	Table CCWE in 268.41	Anthracene	120-12-7	*0.039	*28
		Benzene	71-43-2	*0.011	*14
		Benzo(a)pyrene	50-32-8	*0.047	*12
		Bis(2-ethylhexyl)phthalate.	117-81-7	*0.043	*7.3

TABLE CCW.—CONSTITUENT CONCENTRATIONS IN WASTES—Continued

Waste code	See also	Regulated hazardous constituent	CAS No. for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewaters concentration (mg/kg)
		Carbon disulfide	75-15-0	* 0.011	NA
		Chrysene	2218-01-9	* 0.043	* 15
		2,4-Dimethylphenol	105-67-9	* 0.033	NA
		Ethylbenzene	100-41-4	* 0.011	* 14
		Naphthalene	91-20-3	* 0.033	* 42
		Phenanthrene	85-01-8	* 0.039	* 34
		Phenol	108-95-2	* 0.047	* 3.6
		Pyrene	129-00-0	* 0.045	* 36
		Toluene	108-88-3	* 0.011	* 14
		Xylene(s)		* 0.011	* 22
		Cyanides (Total)	57-12-5	* 0.028	* 1.8
		Chromium (Total)	7440-47-32	0.2	NA
		Lead	7439-92-1	0.037	NA
K050	Table CCWE in 268.41	Benzo(a)pyrene	50-32-8	* 0.047	* 12
		Phenol	108-95-2	* 0.047	* 3.6
		Cyanides (Total)	57-12-5	* 0.028	* 1.8
		Chromium (Total)	7440-47-32	0.2	NA
		Lead	7439-92-1	0.037	NA
K051	Table CCWE in 268.41	Acenaphthene	208-96-8	* 0.05	NA
		Anthracene	120-12-7	* 0.039	* 28
		Benzene	71-43-2	* 0.011	* 14
		Benzo(a)anthracene	50-32-8	* 0.043	* 20
		Benzo(a)pyrene	117-81-7	* 0.047	* 12
		Bis(2-ethylhexyl)phthalate.	75-15-0	* 0.043	* 7.3
		Chrysene	2218-01-9	* 0.043	* 15
		Di-n-butyl phthalate	105-67-9	* 0.06	* 3.6
		Ethylbenzene	100-41-4	* 0.011	* 14
		Fluorene	86-73-7	* 0.05	* NA
		Naphthalene	91-20-3	* 0.033	* 42
		Phenanthrene	85-01-8	* 0.039	* 34
		Phenol	108-95-2	* 0.047	* 3.6
		Pyrene	129-00-0	* 0.045	* 36
		Toluene	108-88-3	* 0.011	* 14
		Xylene(s)		* 0.011	* 22
		Cyanides (Total)	57-12-5	* 0.028	* 1.8
		Chromium (Total)	7440-47-32	0.2	NA
		Lead	7439-92-1	0.037	NA
K052	Table CCWE in 268.41	Benzene	71-43-2	* 0.011	* 14
		Benzo(a)pyrene	50-32-8	* 0.047	* 12
		o-Cresol	95-48-7	* 0.011	* 6.2
		p-Cresol	106-44-5	* 0.011	* 6.2
		2,4-Dimethylphenol	105-67-9	* 0.033	* NA
		Ethylbenzene	100-41-4	* 0.011	* 14
		Naphthalene	91-20-3	* 0.033	* 42
		Phenanthrene	85-01-8	* 0.039	* 34
		Phenol	108-95-2	* 0.047	* 3.6
		Toluene	108-88-3	* 0.011	* 14
		Xylenes		* 0.011	* 22
		Cyanides (Total)	57-12-5	* 0.028	* 1.8
		Chromium (Total)	7440-47-32	0.2	NA
		Lead	7439-92-1	0.037	NA
060		Benzene	71-43-2	·* 0.17	* 0.071
		Benzo(a)pyrene	50-32-8	·* 0.035	* 3.6
		Naphthalene	91-20-3	·* 0.028	* 3.4
		Phenol	108-95-2	·* 0.042	* 3.4
		Cyanides (Total)	57-12-5	1.9	1.2
61	Table CCWE in 268.41 and Table 2 in 268.42.	Cadmium	7440-43-9	1.61	NA
		Chromium (Total)	7440-47-32	0.32	NA
		Lead	7439-92-1	0.51	NA
		Nickel	7440-02-0	0.44	NA
62	Table CCWE in 268.41	Chromium (Total)	7440-47-32	0.32	NA
		Lead	7439-92-1	0.04	NA
		Nickel	7440-02-0	0.44	NA

TABLE CCW.—CONSTITUENT CONCENTRATIONS IN WASTES—Continued

Waste code	See also	Regulated hazardous constituent	CAS No. for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewaters concentration (mg/kg)
K069	Table CCWE in 268.41 and Table 2 in 268.42.	Cadmium	7440-43-9	1.6	NA
		Lead	7439-92-1	0.51	NA
K071	Table CCWE in 268.41	Mercury	7439-97-6	0.030	NA
K073		Carbon tetrachloride	56-23-5	* 0.057	* 6.2
		Chloroform	67-66-3	* 0.046	* 6.2
		Hexachloroethane	67-72-1	* 0.055	* 30
		Tetrachloroethene	127-18-4	* 0.056	* 6.2
		1,1,1-Trichloroethane	71-55-6	* 0.054	* 6.2
K083	Table CCWE in 268.41	Benzene	71-43-2	* 0.14	* 6.6
		Aniline	62-53-3	* 0.81	* 14
		Diphenylamine	22-39-4	* 0.52	NA
		Diphenylnitrosamine	86-30-6	* 0.40	NA
		Sum of Diphenylamine and Diphenylnitrosamine.		NA	* 14
		Nitrobenzene	98-95-3	* 0.068	* 14
		Phenol	108-95-2	0.039	* 5.6
		Cyclohexanone	108-94-1	0.36	* 30
		Nickel	7440-02-0	0.47	NA
K084		Arsenic	7440-38-2	0.79	NA
K085		Benzene	71-43-2	* 0.14	* 4.4
		Chlorobenzene	108-90-7	* 0.057	* 4.4
		o-Dichlorobenzene	95-50-1	* 0.088	* 4.4
		m-Dichlorobenzene	541-73-1	* 0.036	* 4.4
		p-Dichlorobenzene	106-46-7	* 0.090	* 4.4
		1,2,4-Trichlorobenzene	120-82-1	* 0.055	* 4.4
		1,2,4,5-Tetrachlorobenzene.	95-94-3	* 0.055	* 4.4
		Pentachlorobenzene	608-93-5	0.055	* 4.4
		Hexachlorobenzene	118-74-1	* 0.055	* 4.4
		Aroclor 1016	12674-1, 2	* 0.013	* 0.92
		Aroclor 1221	11104-28-2	* 0.014	* 0.92
		Aroclor 1232	11141-16-5	* 0.013	* 0.92
		Aroclor 1242	53469-21-9	* 0.017	* 0.92
		Aroclor 1248	12672-29-6	* 0.013	* 0.92
		Aroclor 1254	11097-69-1	* 0.014	* 1.8
		Aroclor 1260	11096-82-5	* 0.014	* 1.8
K086	Table CCWE in 268.41	Acetone	67-64-1	0.28	* 160
		Acetophenone	96-86-2	0.010	* 9.7
		Bis(2-ethylhexyl)phthalate.	117-81-7	* 0.28	* 28
		n-Butyl alcohol	71-36-3	5.6	* 2.6
		Butylbenzylphthalate	85-68-7	* 0.017	* 7.9
		cyclohexanone	108-94-1	0.36	NA
		1,2-Dichlorobenzene	95-50-1	0.088	* 6.2
		Diethyl phthalate	84-66-2	* 0.20	* 28
		Dimethyl phthalate	131-11-3	* 0.047	* 28
		Di-n-butyl phthalate	84-74-2	* 0.057	* 28
		Di-n-octyl phthalate	117-84-0	* 0.017	* 28
		Ethyl acetate	141-78-6	* 0.34	* 33
		Ethylbenzene	100-41-4	* 0.057	* 6.0
		Methanol	67-56-1	* 5.6	NA
		Methyl isobutyl ketone	108-10-1	0.14	* 33
		Methyl ethyl ketone	78-93-3	0.28	* 36
		Methylene chloride	75-09-2	* 0.089	* 33
		Naphthalene	91-20-3	* 0.059	* 3.1
		Nitrobenzene	98-95-3	* 0.068	* 14
		Toluene	108-88-3	* 0.080	* 28
		1,1,1-Trichloroethane	71-55-6	* 0.054	* 5.6
		Trichloroethylene	79-01-6	* 0.054	* 5.6
		Xylenes (Total)		* 0.32	* 28
		Cyanides (Total)	57-12-5	1.9	1.5
		Chromium (Total)	7440-47-32	0.32	NA
		Lead	7439-92-1	0.037	NA
K087	Table CCWE in 268.41	Acenaphthalene	208-96-8	* 0.028	3.4
		Benzene	71-43-2	* 0.014	* 0.071

TABLE CCW.—CONSTITUENT CONCENTRATIONS IN WASTES—Continued

Waste code	See also	Regulated hazardous constituent	CAS No. for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewaters concentration (mg/kg)
		Chrysene	218-01-9	* 0.028	* 3.4
		Fluoranthene	206-44-0	* 0.028	* 3.4
		Indeno(1,2,3-cd)pyrene	193-39-5	* 0.028	* 3.4
		Naphthalene	91-20-3	* 0.028	* 3.4
		Phenanthrene	85-01-8	* 0.028	* 3.4
		Toluene	108-88-3	* 0.008	* 0.65
		Xylenes		* 0.014	* 0.07
		Lead	7439-92-1	0.037	NA
K093		Phthalic anhydride (measured as Phthalic acid).	85-44-9	*0.54	* 28
K094		Phthalic anhydride (measured as Phthalic acid).	85-44-9	*0.54	* 28
K095		1,1,1,2-Tetrachloroethane.	630-20-6	0.057	* 5.6
		1,1,2,2-Tetrachloroethane.	79-34-6	0.057	* 5.6
		Tetrachloroethene	127-18-4	0.056	* 6.0
		1,1,2-Trichloroethane	79-00-5	0.054	* 6.0
		Trichloroethylene	79-01-6	0.054	* 5.6
		Hexachloroethane	67-72-1	0.055	* 28
		Pentachloroethane	76-01-7	0.055	* 5.6
K096		1,1,1,2-Tetrachloroethane.	630-20-6	0.057	* 5.6
		1,1,2,2-Tetrachloroethane.	79-34-6	0.057	* 5.6
		Tetrachloroethene	127-18-4	0.056	* 6.0
		1,1,2 Trichloroethane	79-00-5	0.054	* 6.0
		Trichloroethene	79-01-6	0.054	* 5.6
		1,3-Dichlorobenzene	541-73-1	0.036	* 5.6
		Pentachloroethane	76-01-7	0.055	* 5.6
		1,2,4-Trichlorobenzene	120-82-1	0.055	* 19
K097		Hexachlorocyclopentadiene.	77-47-4	' 0.057	2.4
		Chlordane	57-74-9	' 0.0033	* 0.26
		Heptachlor	76-44-8	' 0.0012	* 0.066
		Heptachlor epoxide	1024-57-3	' 0.016	* 0.066
K098		Toxaphene	8001-35-1	' 0.0095	* 2.6
K099		2,4-Dichlorophenoxyacetic acid.	94-75-7	*1	*1
		Hexachlorodibenzo-p-dioxins.		* 0.001	* 0.001
		Hexachlorodibenzofurans.		* 0.001	* 0.001
		Pentachlorodibenzo-p-dioxins.		* 0.001	* 0.001
		Pentachlorodibenzofurans.		* 0.001	* 0.001
		Tetrachlorodibenzo-p-dioxins.		* 0.001	* 0.001
		Tetrachlorodibenzofurans.		* 0.001	* 0.001
K100	Table CCWE in 268.41	Cadmium	7440-43-9	1.6	NA
		Chromium (Total)	7440-47-32	0.32	NA
		Lead	7439-92-1	0.51	NA
K101		o-Nitroaniline		* 0.27	* 14
		Arsenic	7440-38-2	0.79	NA
		Cadmium	7440-43-9	0.24	NA
		Lead	7439-92-1	0.17	NA
		Mercury	7439-97-6	0.082	NA
102	Table CCWE in 268.41	o-Nitrophenol		* 0.028	* 13
		Arsenic	7440-38-2	0.79	NA
		Cadmium	7440-43-9	0.24	NA
		Lead	7439-92-1	0.17	NA
		Mercury	7439-97-6	0.082	NA
103		Aniline	62-53-3	* 4.5	5.6

TABLE CCW.—CONSTITUENT CONCENTRATIONS IN WASTES—Continued

Waste code	See also	Regulated hazardous constituent	CAS No. for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewaters concentration (mg/kg)
		Benzene	71-43-2	* 0.15	* 6.0
		2,4-Dinitrophenol	51-28-5	* 0.61	* 5.6
		Nitrobenzene	98-95-3	* 0.073	* 5.6
		Phenol	108-95-2	* 1.4	* 5.6
K104		Aniline	62-53-3	* 4.5	* 5.6
		Benzene	71-43-2	* 0.15	* 6
		2,4-Dinitrophenol	51-28-5	* 0.61	* 5.6
		Nitrobenzene	98-95-3	* 0.073	* 5.6
		Phenol	108-95-2	* 1.4	* 5.6
		Cyanides (Total)	57-12-5	2.7	* 1.8
K105		Benzene	71-43-2	0.14	* 4.4
		Chlorobenzene	108-90-7	0.057	* 4.4
		o-Dichlorobenzene	95-50-1	0.088	* 4.4
		p-Dichlorobenzene	106-46-7	0.090	* 4.4
		2,4,5-Trichlorophenol	95-95-4	0.18	* 4.4
		2,4,6-Trichlorophenol	88-06-2	0.035	* 4.4
		2-Chlorophenol	95-57-8	0.044	* 4.4
		Phenol	108-95-2	0.039	* 4.4
K106	Table CCWE in 268.41 and Table 2 in 268.42.	Mercury	7439-97-6	0.030	NA
K115	Table CCWE in 268.41	Nickel	7440-02-0	0.47	NA

* Treatment standards for this organic constituent were established based upon incineration in units operated in accordance with the technical requirements of 40 CFR Part 264 Subpart O or Part 265 Subpart O, or based upon combustion in fuel substitution units operating in accordance with applicable technical requirements. A facility may certify compliance with these treatment standards according to provisions in 40 CFR Section 268.7.

' Based on analysis of composite samples.

* As analyzed using SW-846 Method 9010; sample size: 0.5-10; distillation time: one hour to one hour and fifteen minutes.

NA—Not Applicable.

TABLE CCW.—CONSTITUENT CONCENTRATIONS IN WASTES

Waste code	Commercial chemical name	See also	Regulated hazardous constituent	CAS No. for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewaters concentration (mg/kg)
P004	Aldrin		Aldrin	309-00-2	· 0.21	0.066
P010	Arsenic acid	Table CCWE in 268.41	Arsenic	7440-38-2	0.79	NA
P011	Arsenic pentoxide	Table CCWE in 268.41	Arsenic	7440-38-2	0.79	NA
P012	Arsenic trioxide	Table CCWE in 268.41	Arsenic	7440-38-2	0.79	NA
P013	Barium cyanide	Table CCWE in 268.41	Cyanides (Total)	57-12-5	1.9	110
			Cyanides (Amenable)	57-12-5	0.1	9.1
P020	2-sec-Butyl-4,6-dinitrophenol (Dinoseb)		2-sec-Butyl-4,6-dinitrophenol (Dinoseb)	88-85-7	0.066	• 2.5
P021	Calcium cyanide		Cyanides (Total)	57-12-5	1.9	110
			Cyanides (Amenable)	57-12-5	0.1	9.1
P022	Carbon disulfide	Table 2 in 268.42	Carbon disulfide	75-15-0	0.014	NA
P024	p-Chloroaniline		p-Chloroaniline	106-47-8	0.46	• 16
P029	Copper cyanide		Cyanides (Total)	57-12-5	1.9	110
			Cyanides (Amenable)	57-12-5	0.1	9.1
P030	Cyanides (soluble salts and complexes)		Cyanides (Total)	57-12-5	1.9	110
			Cyanides (Amenable)	57-12-5	0.1	9.1
P036	Dichlorophenylarsine	Table CCWE in 268.41	Arsenic	7440-38-2	0.79	NA
P037	Dieldrin		Dieldrin	60-57-1	· 0.017	• 0.13
P038	Diethylarsine	Table CCWE in 268.41	Arsenic	7740-38-2	0.79	NA
P039	Disulfoton		Disulfoton	298-04-4	0.017	• 0.1
P047	4,6-Dinitro-o-cresol		4,6-Dinitro-o-cresol	534-52-1	· 0.28	• 160
P048	2,4-Dinitrophenol		2,4-Dinitrophenol	51-28-5	· 0.12	• 160
P050	Endosulfan		Endosulfan I	939-98-8	· 0.023	• 0.066
			Endosulfan II	33213-6-5	· 0.029	• 0.13
			Endosulfan sulfate	1031-07-8	· 0.029	• 0.13
P051	Endrin		Endrin	72-20-8	· 0.0028	• 0.13
			Endrin aldehyde	7421-93-4	· 0.025	• 0.13
P056	Fluoride	Table 2 in 268.42	Fluoride	16964-48-8	35	NA
P059	Heptachlor		Heptachlor	76-44-8	· 0.0012	• 0.066
			Heptachlor epoxide	1024-57-3	· 0.016	• 0.066
P060	Isodrin		Isodrin	465-73-6	· 0.021	• 0.066
P063	Hydrogen cyanide		Cyanides (Total)	57-12-5	1.9	110
			Cyanides (Amenable)	57-12-5	0.10	9.1
P065	Mercury fulminate	Table CCWE in 268.41 and Table 2 in 268.42	Mercury	7439-97-6	0.030	NA
P071	Methyl parathion		Methyl parathion	298-00-0	0.025	• 0.1
P073	Nickel carbonyl	Table CCWE in 268.41	Nickel	7440-02-0	0.44	NA
P074	Nickel cyanide	Table CCWE in 268.41	Cyanides (Table)	57-12-5	1.9	110
			Cyanides (Amenable)	57-12-5	0.10	9.1
			Nickel	7440-02-0	0.44	NA
P077	p-Nitroaniline		p-Nitroaniline	100-01-6	· 0.028	• 28

TABLE CCW.—CONSTITUENT CONCENTRATIONS IN WASTES—Continued

ste de	Commercial chemical name	See also	Regulated hazardous constituent	CAS No. for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewaters concentration (mg/kg)
	N-Nitrosodimethylamine	Table 2 in 268.42	N-Nitrosodimethylamine	62-75-9	·0.40	NA
	Parathion		Parathion	56-38-2	0.025	*0.1
	Phenylmercury acetate	Table CCWE in 268.41 and Table 2 in 268.42.	Mercury	7439-97-6	0.030	NA
	Phorate		Phorate	298-02-2	0.025	*0.1
	Famphur		Famphur	52-85-7	0.025	*0.1
	Potassium cyanide		Cyanides (Total)	57-12-5	1.9	110
			Cyanides (Amenable)	57-12-5	0.10	9.1
	Potassium silver cyanide	Table CCWE in 268.41	Cyanides (Total)	57-12-5	1.9	110
			Cyanides (Amenable)	57-12-5	0.1	9.1
			Silver	7440-22-4	0.29	NA
	Ethyl cyanide (Propanenitrile)		Ethyl cyanide (Propanenitrile)	107-12-0	·0.24	*360
	Selenourea	Table CCWE in 268.41	Selenium	7782-49-2	·1.0	NA
	Silver cyanide	Table CCWE in 268.41	Cyanides (Total)	57-12-5	1.9	110
			Cyanides (Amenable)	57-12-5	0.10	9.1
			Silver	7440-22-4	0.29	NA
	Sodium cyanide		Cyanides (Total)	57-12-5	1.9	110
			Cyanides (Amenable)	57-12-5	0.10	9.1
	Tetraethyl lead	Table CCWE in 268.41 and Table 2 in 268.42.	Lead	7439-92-1	0.040	NA
	Thallic oxide	Table 2 in 268.42	Thallium	7440-28-0	·0.14	NA
	Thallium selenite	Table CCWE in 268.41	Selenium	7782-49-2	1.0	NA
	Thallium(I)sulfate	Table 2 in 268.42	Thallium	7440-28-0	·0.14	NA
	Ammonia vanadate	Table 2 in 268.42	Vanadium	7440-62-2	·28	NA
	Vanadium pentoxide	Table 2 in 268.42	Vanadium	7440-62-2	·28	NA
	Zinc cyanide		Cyanides (Total)	57-12-5	1.9	110
			Cyanides (Amenable)	57-12-5	0.10	9.1
	Toxaphene		Toxaphene	8001-35-1	·0.0095	*1.3
	Acetone		Acetone	67-64-1	0.28	*160
	Acetonitrile	Table 2 in 268.42	Acetonitrile	75-05-8	017	NA
	Acetophenone		Acetophenone	98-86-2	*0.010	*9.7
	2-Acetylaminofluorene		2-Acetylaminofluorene	53-96-3	·0.059	*140
	Acrylonitrile		Acrylonitrile	107-13-1	·0.24	*84
	Aniline		Aniline	62-53-3	0.81	*14
	Benz(a)anthracene		Benz(a)anthracene	56-55-3	·0.059	*8.2
	Benzene		Benzene	71-43-2	·0.14	*36
	Benzo(a)pyrene		Benzo(a)pyrene	50-32-8	·0.061	*8.2
	Bis(2-chloroethoxy)methane		Bis(2-chloroethoxy)methane	111-91-1	0.036	*7.2
	Bis(2-chloroethyl)ether		Bis(2-chloroethyl)ether	111-44-4	0.033	*7.2
	Bis(2-chloroisopropyl) ether		Bis(2-chloroisopropyl) ether	39638-32-9	·0.055	*7.2
	Bis(2-ethylhexyl) pthalate		Bis(2-ethylhexyl) pthalate	117-81-7	*0.54	*28

		[illegible]	7440-47-32	0.32	NA
Chlordane (alpha and gamma)		Chlordane (alpha and gamma)	57-74-9	· 0.0033	• 0.13
Chlorobenzene		Chlorobenzene	108-90-7	· 0.057	• 5.7
Chlorobenziiate	Table 2 in 268.42	Chlorobenzilate	510-15-6	· 0.10	NA
p-Chloro-m-cresol		p-Chloro-m-cresol	59-50-7	· 0.018	• 14
2-Chloroethyl vinyl	Table 2 in 268.42	2-Chloroethyl vinyl	110-75-8	0.057	NA
Vinyl chloride		Vinyl chloride	75-01-4	· 0.27	• 33
Chloroform		Chloroform	67-66-3	· 0.046	• 5.6
Chloromethane (Methyl chloride)		Chloromethane (Methyl chloride)	74-87-3	· 0.19	• 33
2-Chloronaphthalene		2-Chloronaphthalene	91-58-7	· 0.055	• 5.6
2-Chlorophenol		2-Chlorophenol	95-57-8	· 0.044	• 5.7
Chrysene		Chrysene	218-01-9	· 0.059	• 8.2
Creosote	Table CCWE in 268.41	Naphthalene	91-20-3	• 0.031	• 1.5
		Pentachlorophenol	87-86-5	• 0.18	• 7.4
		Phenanthrene	85-01-8	• 0.031	• 1.5
		Pyrene	129-00-0	• 0.028	• 28
		Toluene	108-88-3	• 0.028	• 33
		Xylenes (Total)	7439-92-1	• 0.032	NA
		Lead		• 0.037	
Cresols (Cresylic acid)		o-Cresol	95-48-7	· 0.11	• 5.6
		Cresols (m- and p- isomers)		· 0.77	• 3.2
Cyclohexanone	Table 2 in 268.42	Cyclohexanone	108-94-1	0.36	NA
DDD		o,p'-DDD	53-19-0	0.023	• 0.087
		p,p'-DDD	72-54-8	0.023	• 0.087
DDT		o,p'-DDT	789-02-6	· 0.0039	• 0.087
		p,p'-DDT	50-29-3	· 0.0039	• 0.087
		o,p'-DDD	53-19-0	· 0.023	• 0.087
		p,p'-DDD	72-54-8	· 0.023	• 0.087
		o,p'-DDE	3424-82-6	· 0.031	• 0.087
		p,p'-DDE	72-55-9	· 0.031	• 0.087
Dibenzo(a,h)anthracene		Dibenzo(a,h)anthracene	53-70-3	· 0.055	• 8.2
1,2-Dibromo-3-chloropropane		1,2-Dibromo-3-chloropropane	96-12-8	· 0.11	• 15
1,2-Dibromoethane (Ethylenedibromide)		1,2-Dibromoethane (Ethylene dibromide)	106-93-4	· 0.028	15
Dibromonethane		Dibromonethane	74-95-3	· 0.11	15
Di-n-butyl phthalate		Di-n-butyl phthalate	84-74-2	• 0.54	• 28
o-Dichlorobenzene		o-Dichlorobenzene	95-50-1	· 0.088	• 6.2
m-Dichlorobenzene		m-Dichlorobenzene	541-73-1	0.036	6.2
p-Dichlorobenzene		p-Dichlorobenzene	104-46-7	· 0.090	• 6.2
Dichlorodifluoromethane		Dichlorodifluoromethane	75-71-8	· 0.23	• 7.2
1,1-Dichloroethane		1,1-Dichloroethane	75-34-3	· 0.059	7.2
1,2-Dichloroethane		1,2-Dichloroethane	107-06-2	· 0.21	• 7.2
1,1-Dichloroethylene		1,1-Dichloroethylene	75-35-4	· 0.025	• 33
1,2-Dichloroethylene		trans-1,2-Dichloroethylene	156-60-5	· 0.054	[1] 33
Methylene chloride		Methylene chloride	75-09-2	[2] 0.089	[1] 33
2,4-Dichlorophenol		2,4-Dichlorophenol	120-83-2	[2] 0.044	[1] 14

TABLE CCW.—CONSTITUENT CONCENTRATIONS IN WASTES—Continued

Waste code	Commercial chemical name	See also	Regulated hazardous constituent	CAS No. for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewaters concentration (mg/kg)
U082	2,6-Dichlorophenol		2,6-Dichlorophenol	87-65-0	[2] 0.044	[1] 14
U083	1,2-Dichloropropane		1,2-Dichloropropane	78-87-5	[2] 0.85	[1] 18
U084	1,3-Dichloropropene		cis-1,3-Dichloropropylene	10061-01-5	[2] 0.036	[1] 18
			trans-1,3-Dichloropropylene	10061-02-6	[2] 0.036	[1] 18
U088	Diethyl phthalate		Diethyl phthalate	84-66-2	[1] 0.54	[1] 28
U093	p-Dimethylaminoazobenzene	Table 2 in 268.42	p-Dimethylaminoazobenzene	60-11-7	[2] 0.13	NA
U101	2,4-Dimethylphenol		2,4-Dimethylphenol	105-67-9	[2] 0.036	[1] 14
U102	Dimethyl phthalate		Dimethyl phthalate	131-11-3	[1] 0.54	[1] 28
U105	2,4-Dinitrotoluene		2,4-Dinitrotoluene	121-14-2	[2] 0.32	[1] 140
U106	2,6-Dinitrotoluene		2,6-Dinitrotoluene	606-20-2	[2] 0.55	[1] 28
U107	Di-n-octyl phthalate		Di-n-octyl phthalate	117-84-0	[1] 0.54	[1] 28
U108	1,4-Dioxane		1,4-Dioxane	123-91-1	[2] 0.12	[1] 170
U111	Di-n-propylnitrosoamine		Di-n-propylnitrosoamine	621-64-7	[2] 0.40	[1] 14
U112	Ethyl acetate		Ethyl acetate	141-78-6	[2] 0.34	[1] 33
U117	Ethyl ether		Ethyl ether	60-29-7	[2] 0.12	[1] 160
U118	Ethyl methacrylate		Ethyl methacrylate	97-63-2	[2] 0.14	[1] 160
U120	Fluoranthene		Fluoranthene	206-44-0	[2] 0.068	[1] 8.2
U121	Trichloromonofluoromethane		Trichloromonofluoromethane	75-69-4	[2] 0.020	[1] 33
U127	Hexachlorobenzene		Hexachlorobenzene	118-74-1	[2] 0.055	[1] 37
U128	Hexachlorobutadiene		Hexachlorobutadiene	87-68-3	[2] 0.055	[1] 28
U129	Lindane		alpha-BHC	319-84-6 319-	[2] 0.00014	[1] 0.066
			beta-BHC	85-7 319-	0.00014	[1] 0.066
			Delta-BHC	86-8 58-89-	0.023	[1] 0.066
			gamma-BHC (Lindane)	9	0.0017	[1] 0.066
U130	Hexachlorocyclopentadiene		Hexachlorocyclopentadiene	77-47-7	[2] 0.057	[1] 3.6
U131	Hexachloroethane		Hexachloroethane	67-72-1	[2] 0.055	[1] 28
U134	Hydrogen fluoride	Table 2 in 268.42	Fluoride	16964-48-8	35	NA
U136	Cacodylic acid	Table CCWE in 268.41	Arsenic	7440-38-2	0.79	NA
U137	Indeno(1,2,3-c,d)pyrene		Indeno(1,2,3-c,d)pyrene	193-39-5	[2] 0.0055	[1] 8.2
U138	Iodomethane		Iodomethane	74-88-4	[2] 0.19	[1] 65
U140	Isobutyl alcohol		Isobutyl alcohol	78-83-1	5.6	[1] 170
U141	Isosafrole		Isosafrole	120-58-1	0.081	[1] 2.6
U142	Kepone		Kepone	143-50-8	0.0011	[1] 0.13
U144	Lead acetate	Table CCWE in 268.41	Lead	7439-92-1	0.040	NA
U145	Lead phosphate	Table CCWE in 268.41	Lead	7439-92-1	0.040	NA
U146	Lead subacetate	Table CCWE in 268.41	Lead	7439-92-1	0.040	NA
U151	Mercury	Table CCWE in 268.41 and Table 2 in 268.42	Mercury	7439-97-6	0.030	NA
U152	Methacrylonitrile		Methacrylonitrile	126-98-7	[2] 0.24	[1] 84
U155	Methapyrilene		Methapyrilene	91-80-5	0.081	[1] 1.5
U157	3-Methylchloanthrene		3-Methylcholanthrene	56-49-5	[2] 0.0055	[1] 15

			Methyl methacrylate	80-62-6	0.14	[1] 160
U165	Naphthalene		Naphthalene	91-20-3	[2] 0.059	[1] 3.1
U168	2-Naphthylamine	Table 2 in 268.42	2-Naphthylamine	91-59-8	[2] 0.52	NA
U169	Nitrobenzene		Nitrobenzene	98-95-3	[2] 0.068	[1] 14
U170	4-Nitrophenol		4-Nitrophenol	100-02-7	[2] 0.12	[1] 29
U172	n-Nitrosodi-n-butylamine		n-Nitrosodi-n-butylamine	924-16-3	[2] 0.40	[1] 17
U174	N-Nitrosodiethylamine		n-Nitrosodiethylamine	55-18-5	[2] 0.40	[1] 28
U179	N-Nitrosopiperidine		n-Nitrosopiperidine	100-75-4	[2] 0.013	[1] 35
U180	N-Nitrosopyrrolidine		n-Nitrosopyrrolidine	930-55-2	[2] 0.013	[1] 35
U181	5-Nitro-o-toluidine		5-Nitro-o-toluidine	99-55-8	[2] 0.32	[1] 28
U183	Pentachlorobenzene		Pentachlorobenzene	608-93-5	[2] 0.055	[1] 37
U185	Pentachloronitrobenzene		Pentachloronitrobenzene	82-68-8	[2] 0.055	[1] 4.8
U187	Phenacetin		Phenacetin	62-44-2	0.081	[1] 16
U188	Phenol		Phenol	108-95-2	0.039	[1] 6.2
U190	Phthalic anhydride (measured as Phthalic acid)		Phthalic anhydride (measured as Phthalic acid)	85-44-9	[1] 0.54	[1] 28
U192	Pronamide		Pronamide	23950-58-5	0.093	[1] 1.5
U196	Pyridine		Pyridine	110-86-1	[2] 0.014	[1] 16
U203	Safrole		Safrole	94-59-7	0.081	[1] 22
U204	Selenium dioxide	Table CCWE in 268.41	Selenium	7782-49-2	1.0	NA
U205	Selenium sulfide	Table CCWE in 268.41	Selenium	7782-49-2	1.0	NA
U207	1,2,4,5-Tetrachlorobenzene		1,2,4,5-Tetrachlorobenzene	95-94-3	[2] 0.055	[1] 19
U208	1,1,1,2-Tetrachloroethane		1,1,1,2-Tetrachloroethane	630-20-6	0.057	[1] 42
U209	1,1,2,2-Tetrachloroethane		1,1,2,2-Tetrachloroethane	79-34-5	[2] 0.057	[1] 42
U210	Tetrachloroethylene		Tetrachloroethylene	127-18-4	[2] 0.056	[1] 5.6
U211	Carbon tetrachloride		Carbon tetrachloride	56-23-5	[2] 0.057	[1] 5.6
U214	Tallium(I)acetate	Table 2 in 268.42	Thallium	7440-28-0	[2] 0.14	NA
U215	Thallium(I)carbonate	Table 2 in 268.42	Thallium	7440-28-0	[2] 0.14	NA
U216	Thallium(I)chloride	Table 2 in 268.42	Thallium	7440-28-0	[2] 0.14	NA
U217	Thallium(I)nitrate	Table 2 in 268.42	Thallium	7440-28-0	[2] 0.14	NA
U220	Toluene		Toluene	108-88-3	[2] 0.080	[1] 28
U225	Tribromomethane (Bromoform)		Tribromomethane (Bromoform)	75-25-2	[2] 0.63	[1] 15
U226	1,1,1-Trichloroethane		1,1,1-Trichloroethane	71-55-6	[2] 0.054	[1] 5.6
U227	1,1,2-Trichloroethane		1,1,2-Trichloroethane	79-00-5	[2] 0.054	[1] 5.6
U228	Trichloroethylene		Trichloroethylene	79-01-6	[2] 0.054	[1] 5.6
U235	tris-(2,3-Dibromopropyl)-phosphate		tris-(2,3-Dibromopropyl)-phosphate	126-72-7	0.025	[1] 0.10
U239	Xylenes		Xylenes		[2] 0.32	[1] 28
U240	2,4-Dichlorophenoxyacetic acid		2,4-Dichlorophenoxyacetic acid	94-75-7	0.72	[1] 10
U243	Hexachloropropene		Hexachloropropene	1888-71-7	[2] 0.035	28
U247	Methoxychlor		Methoxychlor	72-43-5	[2] 0.25	[1] 0.18

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[1] Treatment standards for this organic constituent were established based upon incineration in units operated in accordance with the technical requirements of 40 CFR Part 264 Subpart 0 or Part 265 Subpart 0, or based upon combustion in fuel substitution units operating in accordance with applicable technical requirements. A facility may certify compliance with these treatment standards according to provisions in 40 CFR Section 268.7.

[2] Based on analysis of composite samples.

[3] As analyzed using SW-846 Method 9010; sample size: 0.5–10; distillation time: one hour to one hour fifteen minutes.

NA—Not Applicable.

No Land Disposal for:

K005 Nonwastewaters generated by the process described in the waste listing description, and disposed after June 8, 1989, and not generated in the course of treating wastewater forms of these wastes. (Based on No Generation)

K007 Nonwastewaters generated by the process described in the waste listing description, and disposed after June 8, 1989, and not generated in the course of treating wastewater forms of these wastes. (Based on No Generation)

K021 Nonwastewater forms of these wastes generated by the process described in the waste listing description and disposed after August 17, 1988, and not generated in the course of treating wastewater forms of these wastes (Based on No Generation)

K025 Nonwastewater forms of these wastes generated by the process described in the waste listing description and disposed after August 17, 1988, and not generated in the course of treating wastewater forms of these wastes (Based on No Generation)

K036 Nonwastewater forms of these wastes generated by the process described in the waste listing description and disposed after August 17, 1988, and not generated in the course of treating wastewater forms of these wastes (Based on No Generation)

K044 (Based on Reactivity)

K045 (Based on Reactivity)

K047 (Based on Reactivity)

K060 Nonwastewater forms of these wastes generated by the process described in the waste listing description and disposed after August 17, 1988, and not generated in the course of treating wastewater forms of these wastes (Based on No Generation)

K061 Nonwastewaters—High Zinc Subcategory (greater than or equal to 15% total zinc) (Based on Recycling): effective 8/8/90

K069 Non-Calcium Sulfate Subcategory—Nonwastewater forms of these wastes generated by the process described in the waste listing description and disposed after August 17, 1988, and not generated in the course of treating wastewater forms of these wastes (Based on Recycling)

K100 Nonwastewater forms of those wastes generated by the process described in the waste listing description and disposed after August 17, 1988, and not generated in the course of treating wastewater forms of these wastes (Based on No Generation)

(b) When wastes with differing treatment standards for a constituent of concern are combined for purposes of treatment, the treatment residue must meet the lowest treatment standard for the constituent of concern.

(c) Notwithstanding the prohibitions specified in paragraph (a) of this section, treatment and disposal facilities may demonstrate (and certify pursuant to § 268.7(b)(5)) compliance with the treatment standards for organic constituents specified in this section provided the following conditions are satisified:

(1) The treatment for the organic constituents were established based on incineration in units operated in accordance with the technical requirements of 40 CFR part 264, subpart O or 40 CFR part 265, subpart O, or based on combustion in fuel substitution units operating in accordance with applicable technical requirements;

(2) The organic constituents have been treated using the methods referenced in paragraph (c)(1) of this section; and

(3) The treatment or disposal facility has been unable to detect the organic constituents despite using its best good-faith efforts as defined by applicable Agency guidance or standards. Until such guidance or standards are developed, such good-faith efforts may be demonstrated where the treatment or disposal facility has detected the organic constituents at levels within an order of magnitude of the treatment standard specified in this section.

[53 FR 31218, Aug. 17, 1988, as amended at 54 FR 26649 June 23, 1989; 55 FR 22701, June 1, 1990]

§ 268.44 Variance from a treatment standard.

(a) Where the treatment standard is expressed as a concentration in a waste or waste extract and a waste cannot be treated to the specified level, or where the treatment technology is not appropriate to the waste, the generator or treatment facility may petition the Administrator for a variance from the treatment standard. The petitioner must demonstrate that because the physical or chemical properties of the waste differs significantly from wastes analyzed in developing the treatment standard, the waste

not be treated to specified levels or
he specified methods.

) Each petition must be submitted
ccordance with the procedures in
0.20.

) Each petition must include the
owing statement signed by the pe-
ner or an authorized representa-
:

ertify under penalty of law that I have
nally examined and am familiar with
information submitted in this petition
ll attached documents, and that, based
y inquiry of those individuals immedi-
responsible for obtaining the informa-
I believe that the submitted informa-
is true, accurate, and complete. I am
e that these are significant penalties
ubmitting false information, including
ossibility of fine and imprisonment.

After receiving a petition for
nce from a treatment standard,
Administrator may request any ad-
nal information or samples which
ay require to evaluate the peti-
Additional copies of the complete
ion may be requested as needed to
to affected states and Regional
es.

The Administrator will give
c notice in the Federal Register
e intent to approve or deny a pe-
and provide an opportunity for
c comment. The final decision on
iance from a treatment standard
e published in the Federal Reg-
.

A generator, treatment facility,
posal facility that is managing a
covered by a variance from the
nent standards must comply with
aste analysis requirements for re-
ed wastes found under § 268.7.

During the petition review proc-
the applicant is required to
y with all restrictions on land
al under this part once the ef-
e date for the waste has been
ed.

Where the treatment standard is
ssed as a concentration in a
or waste extract and a waste
ated under conditions specific to
ne site cannot be treated to the
ed level, or where the treatment
ology is not appropriate to the
the generator or treatment fa-
may apply to the Administrator,
delegated representative, for a
site-specific variance from a treatment standard. The applicant for a site-specific variance must demonstrate that because the physical or chemical properties of the waste differs significantly from the waste analyzed in developing the treatment standard, the waste cannot be treated to specified levels or by the specified methods.

(i) Each application for a site-specific variance from a treatment standard must include the information in § 260.20(b)(1)–(4);

(j) After receiving an application for a site-specific variance from a treatment standard, the Assistant Administrator, or his delegated representative, may request any additional information or samples which may be required to evaluate the application.

(k) A generator, treatment facility, or disposal facility that is managing a waste covered by a site-specific variance from a treatment standard must comply with the waste analysis requirements for restricted wastes found under § 268.7.

(l) During the application review process, the applicant for a site-specific variance must comply with all restrictions on land disposal under this part once the effective date for the waste has been reached.

[51 FR 40642, Nov. 7, 1986; 52 FR 21017, June 4, 1987, as amended at 53 FR 31221, Aug. 17, 1988; 54 FR 36972, Sept. 6, 1989]

Subpart E—Prohibitions on Storage

§ 268.50 Prohibitions on storage of restricted wastes.

(a) Except as provided in this section, the storage of hazardous wastes restricted from land disposal under Subpart C of this part of RCRA section 3004 is prohibited, unless the following conditions are met:

(1) A generator stores such wastes in tanks or containers on-site solely for the purpose of the accumulation of such quantities of hazardous waste as necessary to facilitate proper recovery, treatment, or disposal and the generator complies with the requirements in § 262.34 of this chapter. (A generator who is in existence on the effective date of a regulation under this part and who must store hazardous wastes

for longer than 90 days due to the regulations under this Part becomes an owner/operator of a storage facility and must obtain a RCRA permit. Such a facility may qualify for interim status upon compliance with the regulations governing interim status under 40 CFR 270.70).

(2) An owner/operator of a hazardous waste treatment, storage, or disposal facility stores such wastes in tanks or containers solely for the purpose of the accumulation of such quantities of hazardous waste as necessary to facilitate proper recovery, treatment, or disposal and:

(i) Each container is clearly marked to identify its contents and the date each period of accumulation begins;

(ii) Each tank is clearly marked with a description of its contents, the quantity of each hazardous waste received, and the date each period of accumulation begins, or such information for each tank is recorded and maintained in the operating record at that facility. Regardless of whether the tank itself is marked, an owner/operator must comply with the operating record requirements specified in § 264.73 or § 265.73.

(3) A transporter stores manifested shipments of such wastes at a transfer facility for 10 days or less.

(b) An owner/operator of a treatment, storage or disposal facility may store such wastes for up to one year unless the Agency can demonstrate that such storage was not solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal.

(c) A owner/operator of a treatment, storage or disposal facility may store such wastes beyond one year; however, the owner/operator bears the burden of proving that such storage was solely for the purpose of accumulation of such quantities of hazardous waste as are necessary to facilitate proper recovery, treatment, or disposal.

(d) If a generator's waste is exempt from a prohibition on the type of land disposal utilized for the waste (for example, because of an approved case-by-case extension under § 268.5, an approved § 268.6 petition, or a national capacity variance under subpart C), the prohibition in paragraph (a) of this section does not apply during the period of such exemption.

(e) The prohibition in paragraph (a) of this section does not apply to hazardous wastes that meet the treatment standards specified under §§ 268.41, 268.42, and 268.43 or the treatment standards specified under the variance in § 268.44, or, where treatment standards have not been specified, is in compliance with the applicable prohibitions specified in § 268.32 or RCRA section 3004.

(f) Liquid hazardous wastes containing polychlorinated biphenyls (PCBs) at concentrations greater than or equal to 50 ppm must be stored at a facility that meets the requirements of 40 CFR 761.65(b) and must be removed from storage and treated or disposed as required by this part within one year of the date when such wastes are first placed into storage. The provisions of paragraph (c) of this section do not apply to such PCB wastes prohibited under § 268.32 of this part.

[51 FR 40642, Nov. 7, 1986; 52 FR 21017, June 4, 1987, as amended at 52 FR 25791, July 8, 1987; 54 FR 36972, Sept. 6, 1989]

Appendix I—Toxicity Characteristic Leaching Procedure (TCLP)

Note: The TCLP is published in Appendix II of part 261.

[55 FR 11876, Mar. 29, 1990]

Effective Date Note: At 55 FR 11876, Mar. 29, 1990, Appendix I of Part 261 was revised, effective September 25, 1990. For the convenience of the user, the superseded text is set forth below:

Appendix I—Toxicity Characteristic Leaching Procedure (TCLP)

1.0 SCOPE AND APPLICATION

1.1 The TCLP is designed to determine the mobility of both organic and inorganic contaminants present in liquid, solid, and multiphasic wastes.

1.2 If a total analysis of the waste demonstrates that individual contaminants are not present in the waste, or that they are present but at such low concentrations that the appropriate regulatory thresholds could not possibly be exceeded, the TCLP need not be run.

2.0 SUMMARY OF METHOD

(See Figure 1)

2.1 For liquid wastes (i.e., those contain- g insignificant solid material), the waste, ter filtration through a 0.6- to 0.8-um ss fiber filter, is defined as the TCLP ex- ct.

2.2 For wastes comprised of solids or for stes containing significant amounts of lid material, the particle-size of the waste reduced (if necessary), the liquid phase, if y, is separated from the solid phase and red for later analysis. The solid phase is tracted with an amount of extraction id equal to 20 times the weight of the id phase. The extraction fluid employed a function of the alkalinity of the solid ase of the waste. A special extractor sel is used when testing for volatiles (See ble 1). Following extraction, the liquid tract is separated from the solid phase by - to 0.8-um glass fiber filter filtration.

2.3 If compatible (i.e., multiple phases l not form on combination), the initial uid phase of the waste is added to the uid extract, and these liquids are ana- ed together. If incompatible, the liquids analyzed separately and the results are thematically combined to yield a volume- ighted average concentration.

3.0 INTERFERENCES

.1. Potential interferences that may be countered during analysis are discussed in individual analytical methods.

4.0 APPARATUS AND MATERIALS

.1 *Agitation apparatus:* An acceptable tation apparatus is one which is capable rotating the extraction vessel in an end- r-end fashion (See Figure 2) at 30 ± 2 n. Suitable devices known to EPA are ntified in Table 2.

4.2 *Extraction Vessel:*

2.1 Zero-Headspace Extraction Vessel IE). This device is for use *only* when the ste is being tested for the mobility of atile constituents (see Table 1). The ZHE an extraction vessel that allows for uid/solid separation within the device, l which effectively precludes headspace depicted in Figure 3). This type of vessel ws for initial liquid/solid separation, ex- ction, and final extract filtration without ing to open the vessel (see Step 4.3.1). ese vessels shall have an internal volume 00 to 600 mL and be equipped to accom- date a 90-mm filter. Suitable ZHE devices wn to EPA are identified in Table 3. ese devices contain viton O-rings which uld be replaced frequently.

or the ZHE to be acceptable for use, the on within the ZHE should be able to be ed with approximately 15 psi or less. If it takes more pressure to move the piston, the O-rings in the device should be replaced. If this does not solve the problem, the ZHE is unacceptable for TCLP analyses and the manufacturer should be contacted.

The ZHE should be checked after every extraction. If the device contains a built-in pressure gauge, pressurize the device to 50 psi, allow it to stand unattended for 1 hour, and recheck the pressure. If the device does not have a built-in pressure gauge, pressurize the device to 50 psi, submerge it in water, and check for the presence of air bubbles escaping from any of the fittings. If pressure is lost, check all fittings and inspect and replace O-rings, if necessary. Retest the device. If leakage problems cannot be solved, the manufacturer should be contacted.

4.2.2 When the waste is being evaluated for other than volatile contaminants, an extraction vessel that does not preclude headspace (e.g., a 2-liter bottle) is used. Suitable extraction vessels include bottles made from various materials, depending on the contaminants to be analyzed and the nature of the waste (see Step 4.3.3). It is recommended that borosilicate glass bottles be used over other types of glass, especially when inorganics are of concern. Plastic bottles may be used only if inorganics are to be investigated. Bottles are available from a number of laboratory suppliers. When this type of extraction vessel is used, the filtration device discussed in Step 4.3.2 is used for initial liquid/solid separation and final extract filtration.

4.2.3 Some ZHEs use gas pressure to actuate the ZHE piston, while others use mechanical pressure (see Table 3). Whereas the volatiles procedure (see Section 9.0) refers to pounds-per-square inch (psi), for the mechanically actuated piston, the pressure applied is measured in torque-inch-pounds. Refer to the manufacturer's instructions as to the proper conversion.

4.3 *Filtration Devices:* It is recommended that all filtrations be performed in a hood.

4.3.1 Zero-Headspace Extractor Vessel (see Figure 3): When the waste is being evaluated for volatiles, the zero-headspace extraction vessel is used for filtration. The device shall be capable of supporting and keeping in place the glass fiber filter, and be able to withstand the pressure needed to accomplish separation (50 psi).

NOTE: When it is suspected that the glass fiber filter has been ruptured, an in-line glass fiber filter may be used to filter the material within the ZHE.

4.3.2 Filter Holder: When the waste is being evaluated for other than volatile compounds, a filter holder capable of supporting a glass fiber filter and able to withstand the pressure needed to accomplish separation is used. Suitable filter holders range from simple vacuum units to relatively complex systems capable of exerting pressures of up to 50 psi or more. The type of filter holder used depends on the properties of the material to be filtered (see Step 4.3.3). These devices shall have a minimum internal volume of 300 mL and be equipped to accommodate a minimum filter size of 47 mm (Filter holders having an internal capacity of 1.5 L or greater and equipped to accommodate a 142 mm diameter filter are recommended). Vaccum filtration is only recommended for wastes with low solids content (<10%) and for highly granular (liquid-containing) wastes. All other types of wastes should be filtered using positive pressure filtration. Filter holders known to EPA to be suitable for use are shown in Table 4.

4.3.3 Materials of Construction: Extraction vessels and filtration devices shall be made of inert materials which will not leach or absorb waste components. Glass, polytetrafluoroethylene (PTFE), or type 316 stainless steel equipment may be used when evaluating the mobility of both organic and inorganic components. Devices made of high-density polyethylene (HDPE), polypropylene, or polyvinyl chloride may be used only when evaluating the mobility of metals. Borosilicate glass bottles are recommended for use over other types of glass bottles, especially when inorganics are constituents of concern.

4.4 *Filters:* Filters shall be made of borosilicate glass fiber, shall contain no binder materials, and shall have an effective pore size of 0.6- to 0.8-um, or equivalent. Filters known to EPA to meet these specifications are identified in Table 5. Pre-filters must not be used. When evaluating the mobility of metals, filters shall be acid-washed prior to use by rinsing with 1.0 N nitric acid followed by three consecutive rinses with deionized distilled water (a minimum of 1-L per rinse is recommended). Glass fiber filters are fragile and should be handled with care.

4.5 *pH meters:* Any of the commonly available pH meters are acceptable.

4.6 *ZHE extract collection devices:* TEDLAR® bags or glass, stainless steel or PTFE gas tight syringes are used to collect the initial liquid phase and the final extract of the waste when using the ZHE device. The devices listed are recommended for use under the following conditions.

4.6.1 If a waste contains an aqueous liquid phase or if a waste does not contain a significant amount of non-aqueous liquid (i.e., <1% of total waste), the TEDLAR® bag should be used to collect and combine the initial liquid and solid extract. The syringe is not recommended in these cases.

4.6.2 If a waste contains a significant amount of non-aqueous initial liquid phase (i.e., >1% of total waste), the syringe or the TEDLAR® bag may be used for both the initial solid/liquid separation and the final extract filtration. However, analysts should use one or the other, not both.

4.6.3 If the waste contains no initial liquid phase (is 100% solid) or has no significant solid phase (is 100% liquid), either the TEDLAR® bag or the syringe may be used. If the syringe is used, discard the first 5 mL of liquid expressed from the device. The remaining aliquots are used for analysis.

4.7 *ZHE extraction fluid transfer devices:* Any device capable of transferring the extraction fluid into the ZHE without changing the nature of the extraction fluid is acceptable (e.g., a constant displacement pump, a gas tight syringe, pressure filtration unit (See Step 4.3.2), or another ZHE device).

4.8 *Laboratory balance:* Any laboratory balance accurate to within ±0.01 grams may be used (all weight measurements are to be within ±0.1 grams).

5.0 REAGENTS

5.1 *Reagent water:* Reagent water is defined as water in which an interferent is not observed at or above the method detection limit of the analyte(s) of interest. For nonvolatile extractions, ASTM Type II water, or equivalent meets the definition of reagent water. For volatile extractions, it is recommended that reagent water be generated by any of the following methods. Reagent water should be monitored periodically for impurities.

5.1.1 Reagent water for volatile extractions may be generated by passing tap water through a carbon filter bed containing about 500 grams of activated carbon (Calgon Corp., Filtrasorb-300 or equivalent).

5.1.2 A water purification system (Millipore Super-Q or equivalent) may also be used to generate reagent water for volatile extractions.

5.1.3 Reagent water for volatile extractions may also be prepared by boiling water for 15 minutes. Subsequently, while maintaining the water temperature at 90± 5°C, bubble a contaminant-free inert gas (e.g., nitrogen) through the water for 1 hour. While still hot, transfer the water to a narrow-mouth screw-cap bottle under zero-headspace and seal with a Teflon-lined septum and cap.

5.2 1.0 N Hydrochloric acid (HCl) made from ACS reagent grade.

5.3 1.0 N Nitric acid (HNO_3) made from ACS reagent grade.

5.4 1.0 N Sodium hydroxide (NaOH) made from ACS reagent grade.

5.5 Glacial acetic acid (HOAc) ACS reagent grade.

5.6 *Extraction fluid:*

5.6.1 Extraction fluid #1: This fluid is made by adding 5.7 mL glacial HOAc to 500 mL of the appropriate water (see Step 5.1), adding 64.3 mL of 1.0 N NaOH, and diluting to a volume of 1 liter. When correctly prepared, the pH of this fluid will be 4.93 ± 0.05.

5.6.2 Extraction fluid #2: This fluid is made by diluting 5.7 mL glacial HOAc with ASTM Type II water (see Step 5.1) to a volume of 1 liter. When correctly prepared, the pH of this fluid will be 2.88 ± 0.05.

NOTE: It is suggested that these extraction fluids be monitored frequently for impurities. The pH should be checked prior to use to ensure that these fluids are made up accurately.

5.7 Analytical standards shall be prepared according to the appropriate analytical method.

6.0 SAMPLE COLLECTION, PRESERVATION, AND HANDLING

6.1 All samples shall be collected using an appropriate sampling plan.

6.2 At least two separate representative samples of a waste should be collected. If volatile organics are of concern, a third sample should be collected. The first sample is used in several preliminary TCLP evaluations (e.g., to determine the percent solids of the waste; to determine if the waste contains insignificant solids (i.e., the waste is its own extract after filtration); to determine if the solid portion of the waste requires particle-size reduction; and to determine which of the two extraction fluids are to be used for the non-volatile TCLP extraction of the waste). These preliminary evaluations are dentified in Section 7.0. The second and, if equired, third samples are extracted using he TCLP non-volatile procedure (Section .0) and volatile procedure (Section 9.0), respectively.

6.3 Preservatives shall not be added to amples.

6.4 Samples can be refrigerated unless refrigeration results in irreversible physical hange to the waste (e.g., precipitation).

6.5 When the waste is to be evaluated for olatile contaminants, care should be taken o minimize the loss of volatiles. Samples hall be taken and stored in a manner to revent the loss of volatile contaminants. If ossible, it is recommended that any necesary particle-size reduction should be conucted as the sample is being taken (See tep 8.5).

6.6 TCLP extracts should be prepared r analysis and analyzed as soon as possible ollowing extraction. If they need to be tored, even for a short period of time, storge shall be a 4° C, and samples for volatiles nalysis shall not be allowed to come into ontact with the atmosphere (i.e., no headpace). See Section 10.0 (QA requirements) r acceptable sample and extract holding mes.

7.0 PRELIMINARY TCLP EVALUATIONS

The preliminary TCLP evaluations are performed on a minimum 100 gram representative sample of waste that will not actually undergo TCLP extraction (designated as the first sample in Step 6.2). These evaluations include preliminary determination of the percent solids of the waste; determination of whether the waste contains insignificant solids, and is therefore, its own extract after filtration; determination of whether the solid portion of the waste requires particle-size reduction; and determination of which of the two extraction fluids are to be used for the non-volatile TCLP extraction of the waste.

7.1 *Preliminary determination of percent solids:* Percent solids is defined as that fraction of a waste sample (as a percentage of the total sample) from which no liquid may be forced out by an applied pressure, as described below.

7.1.1 If the waste will obviously yield no free liquid when subjected to pressure filtration (i.e., is 100% solids) proceed to Step 7.4.

7.1.2 If the sample is liquid or multiphasic, liquid/solid separation to make a preliminary determination of percent solids is required. This involves the filtration device described in Step 4.3.2 and is outlined in Steps 7.1.3 through 7.1.9.

7.1.3 Pre-weigh the filter and the container that will receive the filtrate.

7.1.4 Assemble the filter holder and filter following the manufacturer's instructions. Place the filter on the support screen and secure.

7.1.5 Weigh out a representative subsample of the waste (100 gram minimum) and record the weight.

7.1.6 Allow slurries to stand to permit the solid phase to settle. Wastes that settle slowly may be centrifuged prior to filtration. Centrifugation is to be used only as an aid to filtration. If used, the liquid should be decanted and filtered followed by filtration of the solid portion of the waste through the same filtration system.

7.1.7 Quantitatively transfer the waste sample to the filter holder (liquid and solid phases). If filtration of the waste at 4° C reduces the amount of expressed liquid over what would be expressed at room temperature then allow the sample to warm up to room temperature in the device before filtering.

NOTE: If waste material (>1% of original sample weight) has obviously adhered to the container used to transfer the sample to the filtration apparatus, determine the weight of this residue and subtract it from the sample weight determined in Step 7.1.5 to determine the weight of the waste sample that will be filtered.

Gradually apply vacuum or gentle pressure of 1-10 psi, until air or pressurizing gas moves through the filter. If this point is not reached under 10 psi, and if no additional liquid has passed through the filter in any 2-minute interval, slowly increase the pressure in 10-psi increments to a maximum of 50 psi. After each incremental increase of 10-psi, if the pressurizing gas has not moved through the filter, and if no additional liquid has passed through the filter in any 2-minute interval, proceed to the next 10-psi increment. When the pressurizing gas begins to move through the filter, or when liquid flow has ceased at 50 psi (i.e., filtration does not result in any additional filtrate within any 2-minute period), filtration is stopped.

NOTE: Instantaneous application of high pressure can degrade the glass fiber filter and may cause premature plugging.

7.1.8 The material in the filter holder is defined as the solid phase of the waste, and the filtrate is defined as the liquid phase.

NOTE: Some wastes, such as oily waste and some paint wastes, will obviously contain some material that appears to be liquid. But even after applying vacuum o pressure filtration, as outlined in Step 7.1.7 this material may not filter. If this is the case, the material within the filtration device is defined as a solid. The original filter is *not* to be replaced with a fresh filter under any circumstances. Only one filter i used.

7.1.9 Determine the weight of the liquid phase by subtracting the weight of the filtrate container (See Step 7.1.3) from the total weight of the filtrate-filled container. The weight of the solid phase of the waste sample is determined by subtracting the weight of the liquid phase from the weight of the total waste sample, as determined in Step 7.1.5 or 7.1.7. Record the weight of the liquid and solid phases. Calculate the percent solids as follows:

$$\text{Percent solids} = \frac{\text{Weight of solid (Step 7.1.9)}}{\text{Total weight of waste (Step 7.1.5 or 7.1.7)}} \times 100$$

7.2 *Determination of whether waste is liquid or has insignificant amounts of solid material:* If the sample obviously has a significant amount of solid material, the solid phase must be subjected to extraction; proceed to Step 7.3 to determine if the waste requires particle-size reduction (and to reduce particle-size, if necessary). Determine whether the waste is liquid or has insignificant amounts of solid material (which need not undergo extraction) as follows:

7.2.1 Remove the solid phase and filter from the filtration apparatus.

7.2.2 Dry the filter and solid phase at 100±20° C until two successive weighings yield the same value within ±1%. Record final weight.

NOTE: Caution should be taken to insure that the subject solid will not flash upon heating. It is recommended that the drying oven be vented to a hood or appropriate device.

7.2.3 Calculate the percent dry solids as follows:

$$\text{Percent dry solids} = \frac{\text{Weight of dry waste and filter} - \text{tared weight of filter}}{\text{Initial weight of waste (Step 7.1.5 or 7.1.1)}} \times 100$$

7.2.4 If the percent dry solids is less than 0.5%, consult Step 6.2 and proceed to Section 8.0 if non-volatiles in the waste are of concern, and to Section 9.0 if volatiles are of interest. In this case, the waste, after filtration is defined as the TCLP extract. If the percent dry solids is greater than or equal to 0.5%, and if the non-volatile TCLP is to be performed, return to the beginning of this Section (7.0) with a new representative waste sample, so that it can be determined if particle-size reduction is necessary (Step 7.3), and so that the appropriate extraction fluid may be determined (Step 7.4) on a fresh portion of the solid phase of the waste. If only the volatile TCLP is to be performed, see the Note in Step 7.4.

7.3 *Determination of whether the waste requires particle-size reduction (particle-size is reduced during this Step):* Using the solid portion of the waste, evaluate the solid for particle-size. If the solid has a surface area per gram of material equal to or greater than 3.1 cm^2, or is smaller than 1 cm in its narrowest dimension (e.g., is capable of passing through a 9.5-mm (0.375-inch) standard sieve), particle-size reduction is not required (proceed to Step 7.4). If the surface area is smaller or the particle-size larger than described above, the solid portion of the waste is prepared for extraction by crushing, cutting, or grinding the waste to a surface area or particle-size as described above.

NOTE: Surface area requirements are meant for filamentous (e.g., paper, cloth) and similar waste materials. Actual measurement of surface area is not required; nor is it recommended.

7.4 *Determination of appropriate extraction fluid:* If the solid content is greater than or equal to 0.5% of the waste and if TCLP extraction for non-volatile constituents will take place (Section 8.0), determination of the appropriate fluid (Step 5.6) to use for the non-volatiles extraction is performed as follows.

NOTE: TCLP extraction for volatile constituents entails using only extraction fluid #1 (Step 5.6.1). Therefore, if TCLP extraction for non-volatiles extraction is not required, proceed to section 9.0.

7.4.1 Weigh out a small subsample of the solid phase of the waste, reduce the solid (if necessary) to a particle-size of approximately 1mm in diameter or less, and transfer 5.0 grams of the solid phase of the waste to a 500-mL beaker or Erlenmeyer flask.

7.4.2 Add 96.5 mL of reagent water ASTM Type II) to the beaker, cover with a watchglass, and stir vigorously for 5 minutes using a magnetic stirrer. Measure and ecord the pH. If the pH is <5.0, extraction luid #1 is used. Proceed to Section 8.0.

7.4.3 If the pH from Step 7.4.2 is >5.0, dd 3.5 mL 1.0 N HCl, slurry briefly, cover with a watchglass, heat to 50 °C, and hold at 0 °C for 10 minutes.

7.4.4 Let the solution cool to room temerature and record the pH. If the pH is 5.0, use extraction fluid #1. If the pH is 5.0, use extraction fluid #2. Proceed to ection 8.0.

7.5 The sample of waste used for perormance of this Section shall *not* be used ny further. Other samples of the waste ee Step 6.2) should be employed for the ection 8.0 and 9.0 extractions.

8.0 PROCEDURE WHEN VOLATILES ARE NOT INVOLVED

Although a minimum sample size of 100 ams (solid and liquid phases) is required, a rger sample size may be more appropriate, epending on the solids content of the aste sample (percent solids, see Step 7.1), hether the initial liquid phase of the waste will be miscible with the aqueous extract of the solid, and whether inorganics, semivolatile organics, pesticides, and herbicides are all analytes of concern. Enough solids should be generated for extraction such that the volume of TCLP extract will be sufficient to support all of the analyses required. If the amount of extract generated by the performance of a single TCLP extraction will not be sufficient to perform all of the analyses to be conducted, it is recommended that more than one extraction be performed and that the extracts from each extraction be combined and then aliquoted for analysis.

8.1 If the waste will obviously yield no liquid when subjected to pressure filtration (i.e., is 100% solid, see Step 7.1), weigh out a representative subsample of the waste (100 gram minimum) and proceed to Step 8.9.

8.2 If the sample is liquid or multiphasic, liquid/solid separation is required. This involves the filtration device described in Step 4.3.2 and is outlined in Steps 8.3 to 8.8.

8.3 Pre-weigh the container that will receive the filtrate.

8.4 Assemble the filter holder and filter following the manufacturer's instructions. Place the filter on the support screen and secure. Acid wash the filter if evaluating the mobility of metals (See Step 4.4).

NOTE: Acid washed filters may be used for all non-volatile extractions even when metals are not of concern.

8.5 Weigh out a representative subsample of the waste (100 gram minimum) and record the weight. If the waste was shown to contain <0.5% dry solids (Step 7.2), the waste, after filtration is defined as the TCLP extract. Therefore, enough of the sample should be filtered so that the amount of filtered liquid will support all of the analyses required of the TCLP extract. For wastes containing >0.5% dry solids (Steps 7.1 or 7.2), use the percent solids information obtained in Step 7.1 to determine the optimum sample size (100 gram minimum) for filtration. Enough solids should be generated after filtration to support the analyses to be performed on the TCLP extract.

8.6 Allow slurries to stand to permit the solid phase to settle. Wastes that settle slowly may be centrifuged prior to filtration. Centrifugation is to be used only as an aid to filtration. If used, the liquid should be decanted and filtered followed by filtration of the solid portion of the waste through the same filtration system.

8.7 Quantitatively transfer the waste sample (liquid and solid phases) to the filter holder (see Step 4.3.2). If filtration of the waste at 4° C reduces the amount of expressed liquid over what would be expressed at room temperature, then allow the sample to warm up to room temperature in the device before filtering.

NOTE: If waste material (>1% of the original sample weight) has obviously adhered to the container used to transfer the sample to the filtration apparatus, determine the weight of this residue and subtract it from the sample weight determined in Step 8.5, to determine the weight of the waste sample that will be filtered.

Gradually apply vacuum or gentle pressure of 1-10 psi, until air or pressurizing gas moves through the filter. If this point is not reached under 10 psi, and if no additional liquid has passed through the filter in any 2-minute interval, slowly increase the pressure in 10-psi increments to maximum of 50 psi. After each incremental increase of 10 psi, if the pressurizing gas has not moved through the filter, and if no additional liquid has passed through the filter in any 2-minute interval, proceed to the next 10-psi increment. When the pressurizing gas begins to move through the filter, or when the liquid flow has ceased at 50 psi (i.e., filtration does not result in any additional filtrate within a 2-minute period), filtration is stopped.

NOTE: Instantaneous application of high pressure can degrade the glass fiber filter and may cause premature plugging.

8.8 The material in the filter holder is defined as the solid phase of the waste, and the filtrate is defined as the liquid phase. Weigh the filtrate. The liquid phase may now be either analyzed (see Step 8.13) or stored at 4 °C until time of analysis.

NOTE: Some wastes, such as oily wastes and some paint wastes, will obviously contain some material that appears to be a liquid. But even after applying vacuum or pressure filtration, as outlined in Step 8.7, this material may not filter. If this is the case, the material within the filtration device is defined as a solid and is carried through the extraction as a solid. The original filter is *not* to be replaced with a fresh filter under any circumstances. Only one the filter is used.

8.9 If the waste contains <0.5% dry solids (see Step 7.2), proceed to Step 8.13. If the waste contains >0.5% dry solids (see Step 7.1 or 7.2), and if particle-size reduction of the solid was needed in Step 7.3, proceed to Step 8.10. If particle-size reduction was not required in Step 7.3, quantitatively transfer the solid material into the extractor vessel, including the filter used to separate the initial liquid from the solid phase. Proceed to Step 8.11.

8.10 The solid portion of the waste is prepared for extraction by crushing, cutting, or grinding the waste to a surface area of particle-size as described in Step 7.3. When the surface area of particle-size has been appropriately altered, quantitatively transfer the solid material into the extractor vessel, including the filter used to separate the initial liquid from the solid phase.

NOTE: Sieving of the waste through a sieve that is not Teflon coated should not be done due to avoid possible contamination of the sample. Surface area requirements are meant for filamentous (e.g., paper, cloth) and similar waste materials. Actual measurement of surface area is not recommended.

8.11 Determine the amount of extraction fluid to add to the extractor vessel as follows:

$$\text{Weight of extraction fluid} = \frac{20 \times \%\ \text{solids (Step 7.1)} \times \text{weight of waste filtered (Step 8.5 or 8.7)}}{100}$$

Slowly add this amount of appropriate extraction fluid (see Step 7.4) to the extractor vessel. Close the extractor bottle tightly (it is recommended that Teflon tape be used to ensure a tight seal), secure in rotary extractor device, and rotate at 30±2 rpm for 18±2 hours. Ambient temperature (i.e., temperature of room in which extraction is to take place) shall be maintained at 22±3 °C during the extraction period.

NOTE: As agitation continues, pressure may build up within the extractor bottle for some types of wastes (e.g., limed or calcium carbonate containing waste may evolve gases such as carbon dioxide). To relieve excess pressure, the extractor bottle may be periodically opened (e.g., after 15 minutes, 30 minutes, and 1 hour) and vented into a hood.

8.12 Following the 18±2 hour extraction, the material in the extractor vessel is separated into its component liquid and solid phases by filtering through a new glass fiber filter, as outlined in Step 8.7. For final filtration of the TCLP extract, the glass fiber filter may be changed, if necessary, to facilitate filtration. Filter(s) shall be acid-washed (see Step 4.4) if evaluating the mobility of metals.

8.13 The TCLP extract is now prepared as follows:

8.13.1 If the waste contained no initial liquid phase, the filtered liquid material obtained from Step 8.12 is defined as the TCLP extract. Proceed to Step 8.14.

8.13.2 If compatible (e.g., multiple phases will not result on combination), the filtered liquid resulting from Step 8.12 is combined with the initial liquid phase of the waste as obtained in Step 8.7. This combined liquid is defined as the TCLP extract. Proceed to Step 8.14.

8.13.3 If the initial liquid phase of the waste, as obtained from Step 8.7, is not or may not be compatible with the filtered liquid resulting from Step 8.12, these liquids are not combined. These liquids, collectively defined as the TCLP extract, are analyzed separately, and the results are combined mathematically. Proceed to Step 8.14.

8.14 Following collection of the TCLP extract, it is recommended that the pH of the extract be recorded. The extract should be immediately aliquoted for analysis and properly preserved (metals aliquots must be acidified with nitric acid to pH <2; all other aliquots must be stored under refrigeration (4 °C) until analyzed). The TCLP extract shall be prepared and analyzed according to appropriate analytical methods. TCLP extracts to be analyzed for metals, other than mercury, shall be acid digested. If the individual phases are to be analyzed separately, determine the volume of the individual phases (to ±0.5%), conduct the appropriate analyses, and combine the results mathematically by using a simple volume-weighted average:

$$\text{Final Analyte Concentration} = \frac{(V_1)(C_1)+(V_2)(C_2)}{V_1+V_2}$$

where:

V_1=The volume of the first phase (L).

C_1=The concentration of the contaminant of concern in the first phase (mg/L).

V_2=The volume of the second phase (L).

C_2=The concentration of the contaminant of concern in the second phase (mg/L).

8.15 The contaminant concentrations in the TCLP extract are compared with the thresholds identified in the appropriate regulations. Refer to Section 10.0 for quality ssurance requirements.

9.0 PROCEDURE WHEN VOLATILES ARE INVOLVED

The ZHE device is used to obtain TCLP xtracts for volatile analysis only. Extract esulting from the use of the ZHE shall not e used to evaluate the mobility of non-volaile analytes (e.g., metals, pesticides, etc.).

The ZHE device has approximately a 500-L internal capacity. Although a minimum ample size of 100 grams was required in the ection 8.0 procedure, the ZHE can only acommodate a *maximum* of 25 grams of solid efined as that fraction of a sample from hich no liquid (additional) may be forced ut by an applied pressure of 50 psi), due to e need to add an amount of extraction uid equal to 20 times the weight of the lid phase.

The ZHE is charged with sample only nce and the device is not opened until the nal extract (of the solid) has been collect-d. Repeated filling of the ZHE of obtain 25 ams of solid is not permitted. The initial trate should be weighed and then stored 4 °C until either analyzed or recombined th the final extract of the solid.

Although the following procedure allows for particle-size reduction during the conduct of the procedure, this could result in the loss of volatile compounds. If possible (e.g., particle-size may be reduced easily by crumbling), particle-size reduction (See Step 9.2) should be conducted on the sample as it is being taken. If necessary, particle-size reduction may be conducted during the procedure.

In carrying out the following steps, do not allow the waste, the initial liquid phase, or the extract to be exposed to the atmosphere for any more time than is absolutely necessary. Any manipulation of these materials should be done when cold (4° C) to minimize loss of volatiles.

9.1 Pre-weigh the (evacuated) container which will receive the filtrate (See Step 4.6), and set aside. If using a TEDLAR® bag, all liquid must be expressed from the device, whether it be for the initial or final liquid/solid separation, and an aliquot taken from the liquid in the bag, for analysis. The containers listed in Step 4.6 are recommended for use under the following conditions.

9.1.1 If a waste contains an aqueous liquid phase or if the waste does not contain a significant amount of non-aqueous liquid (i.e., <1% of total waste), the TEDLAR® bag should be used to collect and combine the initial liquid and solid extract. The syringe is not recommended in these cases.

9.1.2 If a waste contains a significant amount of non-aqueous initial liquid phase (i.e., >1% of total waste), the syringe or the TEDLAR® bag may be used for both the initial solid/liquid separation and the final extract filtration. However, analysts should use one or the other, not both.

9.1.3 If the waste contains no initial liquid phase (is 100% solid) or has no significant solid phase (is 100% liquid), either the TEDLAR[a] bag or the syringe may be used. If the syringe is used, discard the first 5 mL liquid expressed from the device. The remaining aliquots are used for analysis.

9.2 Place the ZHE piston within the body of the ZHE (it may be helpful first to moisten the piston O-rings slightly with extraction fluid). Adjust the piston within the ZHE body to a height that will minimize the distance the piston will have to move once the ZHE is charged with sample (based upon sample size requirements determined from Section 9.0, Step 7.1 and/or 7.2). Secure the gas inlet/outlet flange (bottom flange) onto the ZHE body in accordance with the manufacturer's instructions. Secure the glass fiber filter between the support screens and set aside. Set liquid inlet/outlet flange (top flange) aside.

9.3 If the waste is 100% solid (see Step 7.1), weigh out a representative subsample (25 gram maximum) of the waste, record weight, and proceed to Step 9.5.

9.4 If the waste was shown to contain <0.5% dry solids (Step 7.2), the waste, after filtration is defined as the TCLP extract. Enough of the sample should be filtered so that the amount of filtered liquid will support all of the volatile analyses required. For wastes containing >0.5% dry solids (Steps 7.1 and/or 7.2), use the percent solids information obtained in Step 7.1 to determine the optimum sample size to charge into the ZHE. The appropriate sample size recommended is as follows:

9.4.1 For wastes containing >5% solids (see Step 7.1), weigh out a representative 500 gram sample or waste and record the weight.

9.4.2 For wastes containing >5% solids (see Step 7.1), the amount of waste to charge into the ZHE is determined as follows:

$$\begin{array}{c}\text{Weight of}\\ \text{waste to charge}\\ \text{ZHE}\end{array} = \frac{25}{\begin{array}{c}\%\text{ solids (Step}\\ \text{7.1)}\end{array}} \times 100$$

Weigh out a representative subsample of the waste of the appropriate size and record the weight.

9.5 If particle-size reduction of the solid portion of the waste was required in Step 7.3, proceed to Step 9.6. If particle-size reduction was not required in Step 7.3, proceed to Step 9.7.

9.6 The waste is prepared for extraction by crushing, cutting, or grinding the solid portion of the waste to a surface area or particle-size as described in Step 7.3. Wastes and appropriate reduction equipmen should be refrigerated, if possible, to 4 °C prior to particle-size reduction. The mean used to effect particle-size reduction mus not generate heat in and of itself. If reduction of the solid phase of the waste is necessary, exposure of the waste to the atmosphere should be avoided to the extent possible.

NOTE: Sieving of the waste is not recommended due to the possibility that volatiles may be lost. The use of an appropriately graduated ruler is recommended as an acceptable alternative. Surface area requirements are meant for filamentous (e.g. paper, cloth) and similar waste materials. Actual measurement of surface area is not recommended.

When the surface area or particle-size has been appropriately altered, proceed to Step 9.7.

9.7 Waste slurries need not be allowed to stand to permit the solid phase to settle. Wastes that settle slowly shall not be centrifuged prior to filtration.

9.8 Quantitatively transfer the entire sample (liquid and solid phases) quickly to the ZHE. Secure the filter and support screens into the top flange of the device and secure the top flange to the ZHE body in accordance with the manufacturer's instructions. Tighten all ZHE fittings and place the device in the vertical position (gas inlet/ outlet flange on the bottom). *Do not* attach the extraction collection device to the top plate.

NOTE: If waste material (>1% of original sample weight) has obviously adhered to the container used to transfer the sample to the ZHE, determine the weight of this residue and subtract it from the sample weight determined in Step 9.4, to determine the weight of the waste sample that will be filtered.

Attach a gas line to the gas inlet/outlet valve (bottom flange) and, with the liquid inlet/outlet valve (top flange) open, begin applying gentle pressure of 1-10 psi (or more if necessary) to force all headspace (into a hood) slowly out of the ZHE device. At the first appearance of liquid from the liquid inlet/outlet valve, quickly close the valve and discontinue pressure. If filtration of the waste at 4°C reduces the amount of expressed liquid over what would be expressed at room temperature, then allow the sample to warm up to room temperature in the device before filtering. If the waste is 100% solid (see Step 7.1), slowly increase the pressure to a maximum of 50 psi to force most of the headspace out of the device and proceed to Step 9.12.

9.9 Attach the evacuated pre-weighed filtrate collection container to the liquid inlet/outlet valve and open the valve. Begin applying gentle pressure of 1-10 psi to force the liquid phase into the filtrate collection container. If no additional liquid has passed through the filter in any 2-minute interval, slowly increase the pressure in 10-psi increments to a maximum of 50 psi. After each incremental increase of 10 psi, if no additional liquid has passed through the filter in any 2-minute interval, proceed to the next 10-psi increment. When liquid flow has ceased such that continued pressure filtration at 50 psi does not result in any additional filtrate within any 2-minute period, filtration is stopped. Close the liquid inlet/outlet valve, discontinue pressure to the piston, and disconnect the filtrate collection container.

NOTE: Instantaneous application of high pressure can degrade the glass fiber filter and may cause premature plugging.

9.10 The material in the ZHE is defined as the solid phase of the waste and the filtrate is defined as the liquid phase.

NOTE: Some wastes, such as oily wastes and some paint wastes, will obviously contain some material that appears to be a liquid. But even after applying pressure filtration, this material will not filter. If this is the case, the material within the filtration device is defined as a solid and is carried through the TCLP extraction as a solid.

If the original waste contained <0.5% dry solids (see Step 7.2), this filtrate is defined as the TCLP extract and is analyzed directly. Proceed to Step 9.15.

9.11 The liquid phase may now be either analyzed immediately (see Steps 9.13 through 9.15) or stored at 4 °C under minimal headspace conditions until time of analysis. The weight of extraction fluid #1 to add to the ZHE is determined as follows:

$$\text{Weight of extraction fluid} = \frac{20 \text{ x \% solids (Step 7.1) x weight of waste filtered (Step 9.4 or 9.8)}}{100}$$

9.12 The following steps detail how to add the appropriate amount of extraction fluid to the solid material within the ZHE and agitation of the ZHE vessel. Extraction fluid #1 is used in all cases (see Step 5.6).

9.12.1 With the ZHE in the vertical position, attach a line from the extraction fluid eservior to the liquid inlet/outlet valve. The line used shall contain fresh extraction luid and should be preflushed with fluid to liminate any air pockets in the line. Reease gas pressure on the ZHE piston (from he gas inlet/outlet valve), open the liquid nlet/outlet valve, and begin transferring xtraction fluid (by pumping or similar neans) into the ZHE. Continue pumping exraction fluid into the ZHE until the approriate amount of fluid has been introduced nto the device.

9.12.2 After the extraction fluid has been dded, immediately close the liquid inlet/utlet valve and disconnect the extraction luid line. Check the ZHE to ensure that all alves are in their closed positions. Physically rotate the device in an end-over-end fashon 2 or 3 times. Reposition the ZHE in the ertical position with the liquid inlet/outlet alve on top. Put 5-10 psi behind the piston f necessary) and slowly open the liquid let/outlet valve to bleed out any headace (into a hood) that may have been inoduced due to the addition of extraction uid. This bleeding shall be done quickly nd shall be stopped at the first appearance f liquid from the valve. Re-pressurize the ZHE with 5-10 psi and check all ZHE fittings to ensure that they are closed.

9.12.3 Place the ZHE in the rotary extractor apparatus (if it is not already there) and rotate the ZHE at 30±2 rpm for 18±2 hours. Ambient temperature (i.e., temperature of room in which extraction is to occur) shall be maintained at 22±3 °C during agitation.

9.13 Following the 18±2 hour agitation period, check the pressure behind the ZHE piston by quickly opening and closing the gas inlet/outlet valve and noting the escape of gas. If the pressure has not been maintained (i.e., no gas release observed), the device is leaking. Check the ZHE for leaking as specified in Step 4.2.1, and redo the extraction with a new sample of waste. If the pressure within the device has been maintained, the material in the extractor vessel is once again separated into its component liquid and solid phases. If the waste contained an initial liquid phase, the liquid may be filtered directly into the same filtrate collection container (i.e., TEDLAR® bag) holding the initial liquid phase of the waste, unless doing so would create multiple phases, or unless there is not enough volume left within the filtrate collection container. A separate filtrate collection container must be used in these cases. Filter through the glass fiber filter, using the ZHE device as discussed in Step 9.9. All extract shall be filtered and collected in the TEDLAR® bag is used, if the extract is multiphasic, or if the waste contained an initial liquid phase (see Steps 4.6 and 9.1).

NOTE: An in-line glass fiber filter may be used to filter the material within the ZHE when it is suspected that the glass fiber filter has been ruptured.

9.14 If the original waste contained no initial liquid phase, the filtered liquid material obtained from Step 9.13 is defined as the TCLP extract. If the waste contained in initial liquid phase, the filtered liquid material obtained from Step 9.13 and the initial liquid phase (Step 9.9) are collectively defined as the TCLP extract.

9.15 Following collection of the TCLP extract, the extract should be immediately aliquoted for analysis and stored with minimal headspace at 4 °C until analyzed. The TCLP extract will be prepared and analyzed according to the appropriate analytical methods. If the individual phases are to be analyzed separately (i.e., are not miscible), determine the volume of the individual phases (to ±0.5%), conduct the appropriate analyses, and combine the results mathematically by using a simple volume-weighted average:

$$\text{Final Analyte Concentration} = \frac{(V_1)(C_1)+(V_2)(C_2)}{V_1+V_2}$$

where:

V_1 = The volume of the first phases (L).

C_1 = The concentration of the contaminant of concern in the first phase (mg/L).

V_2 = The volume of the second phase (L).

C_2 = The concentration of the contaminant of concern in the second phase (mg/L).

9.16 The contaminant concentrations in the TCLP extract are compared with the thresholds identified in the appropriate regulations. Refer to Section 10.0 for qualify assurance requirements.

10.0 QUALITY ASSURANCE REQUIREMENTS

10.1 All data, including quality assurance data, should be maintained and available for reference or inspection.

10.2 A minimum of one blank (extraction fluid #1) for every 10 extractions that have been conducted in an extraction vessel shall be employed as a check to determine if any memory effects from the extraction equipment are occurring.

10.3 For each analytical batch (up to twenty samples), it is recommended that a matrix spike be performed. Addition of matrix spikes should occur once the TCLP extract has been generated (i.e., should not occur prior to performance of the TCLP procedure). The purpose of the matrix spike is to monitor the adequacy of the analytical methods used on the TCLP extract and for determining if matrix interferences exist in analyte detection.

10.4 All quality control measures described in the appropriate analytical methods shall be followed.

10.5 The method of standard addition shall be employed for each analyte if: 1) recovery of the compound from the TCLP extract is not between 50 and 150%, or 2) if the concentration of the constituent measured in the extract is within 20% of the appropriate regulatory threshold. If more than one extraction is being run on samples of the same waste (up to twently samples), the method of standard addition need be applied only once and the percent recoveries applied to the remainder of the extractions.

10.6 Samples must undergo TCLP extraction within the following time period after sample receipt: Volatiles, 14 days; Semi-Volatiles, 40 days; Mercury, 28 days; and other Metals, 180 days. Extraction of the solid portion of the waste should be initiated as soon as possible following initial solid/liquid separation. TCLP extracts shall be analyzed after generation and preservation within the following periods: Volatiles, 14 days; Semi-Volatiles, 40 days; Mercury, 28 days; and other Metals, 180 days.

TABLE 1—VOLATILE CONTAMINANTS [1]

Compound	CAS No
Acetone	67-64-1
n-Butyl alcohol	71-36-3
Carbon disulfide	75-15-0
Carbon tetrachloride	56-23-5
Chlorobenzene	108-90-7
Methylene chloride	75-09-2
Methyl ethyl ketone	78-93-3
Methyl isobutyl ketone	108-10-1
Tetrachloroethylene	127-18-4
Toluene	108-88-3
1,1,1-Trichloroethane	71-55-6
Trichloroethylene	79-01-6
Trichlorofluoromethane	75-69-4
Xylene	1330-20-7

[1] Includes compounds identified in the Land Disposal Restrictions Rule. If any or all of these compounds are of concern, the zero-headspace extractor vessel shall be used. If other (non-volatile) compounds are of concern, the conventional bottle extractor shall be used.

TABLE 2—SUITABLE ROTARY AGITATION APPARATUS [1]

Company	Location	Model
Associated Design and Manufacturing Company.	Alexandria, VA (703) 549–5999.	4-vessel device, 6-vessel device
Lars Lande Manufacturing.	Whitmore Lake, MI (313) 449–4116.	10-vessel device, 5-vessel device
IRA Machine Shop and Laboratory.	Santurce, PR (809) 752–4004.	16-vessel device
EPRI Extractor		6-vessel device [2]
REXNORD	Milwaukee, WI (414) 643-2850.	6-vessel device
Analytical Testing and Consulting Services, Inc.	Warrington, PA (215) 343-4490.	4-vessel device

[1] Any device that rotates the extraction vessel in an end-over-end fashion at 30 ± 2 rpm is acceptable.

[2] Although this device is suitable, it is not commercially made. It may also require retrofitting to accommodate ZHE devices.

TABLE 3—SUITABLE ZERO-HEADSPACE EXTRACTOR VESSELS

Company	Location	Model No.
Associated Design & Manufacturing Co.	Alexandria, VA, (703) 549-5999	3740-ZHB, Gas Pressure Device.
Millipore Corp.	Bedford, MA, (800) 225-3384	SD1 P581 C5, Gas Pressure Device.
Analytical Testing & Consulting Services, Inc.	Warrington, PA, (215) 343-4490	C102, Mechanical Pressure Device.

TABLE 4—SUITABLE FILTER HOLDERS [1]

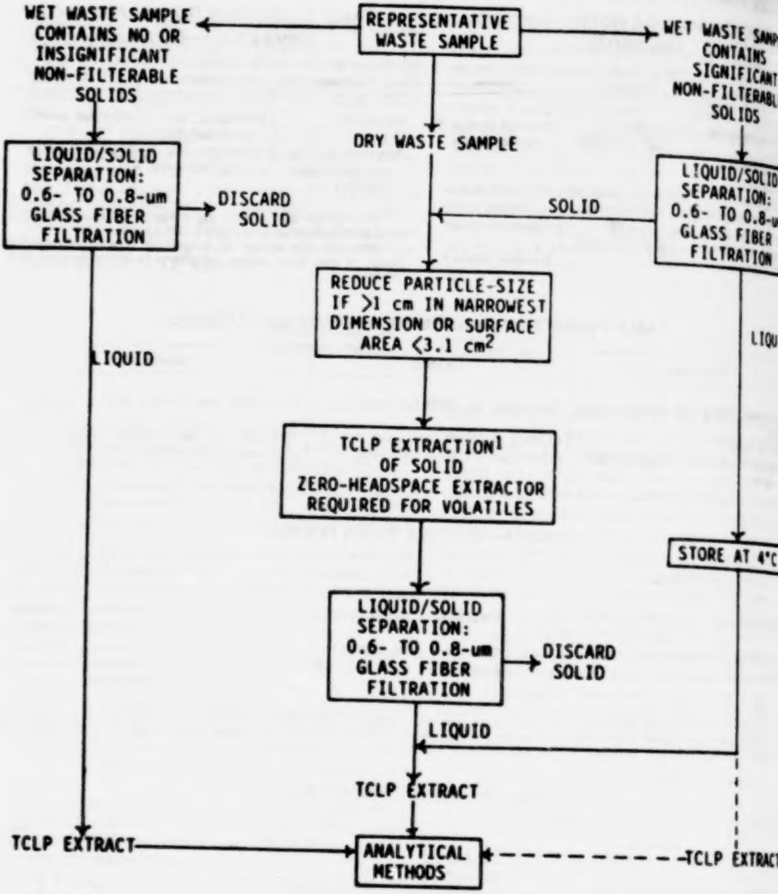
Company	Location	Model	Size
Nuclepore Corp.	Pleasanton, CA, (800) 882-7711	425910	142 mm.
		410400	47 mm.
Micro Filtration Systems	Dublin, CA, (415) 828-6010	302400	142 mm.
Millipore Corp.	Bedford, MA, (800) 225-3384	YT30142HW	142 mm.
		XX1004700	47 mm.

[1] Any device capable of separating the liquid from the solid phase of the waste is suitable, providing that it is chemically compatible with the waste and the constituents to be analyzed. Plastic devices (not listed above) may be used when only norganic contaminants are of concern. The 142 mm size filter holder is recommended.

TABLE 5—SUITABLE FILTER MEDIA

Company	Location	Model	Pore size [1]
Whatman Laboratory Products, Inc.	Clifton, NJ, (201) 773-5800	GFF	0.7

[1] Nominal pore size.


WET WASTE SAMPLE CONTAINS NO OR INSIGNIFICANT NON-FILTERABLE SOLIDS
REPRESENTATIVE WASTE SAMPLE
WET WASTE SAMP CONTAINS SIGNIFICANT NON-FILTERABL SOLIDS
DRY WASTE SAMPLE
LIQUID/SOLID SEPARATION: 0.6- TO 0.8-um GLASS FIBER FILTRATION
DISCARD SOLID
SOLID
LIQUID/SOLID SEPARATION: 0.6- TO 0.8-u GLASS FIBER FILTRATION
REDUCE PARTICLE-SIZE IF >1 cm IN NARROWEST DIMENSION OR SURFACE AREA <3.1 cm²
LIQUID
LIQU
TCLP EXTRACTION¹ OF SOLID ZERO-HEADSPACE EXTRACTOR REQUIRED FOR VOLATILES
STORE AT 4°C
LIQUID/SOLID SEPARATION: 0.6- TO 0.8-um GLASS FIBER FILTRATION
DISCARD SOLID
LIQUID
TCLP EXTRACT
TCLP EXTRACT
ANALYTICAL METHODS
TCLP EXTRACT

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[1] The extraction fluid employed is a function of the alkalinity of the solid phase of the waste.

FIGURE 1: TCLP FLOWCHART

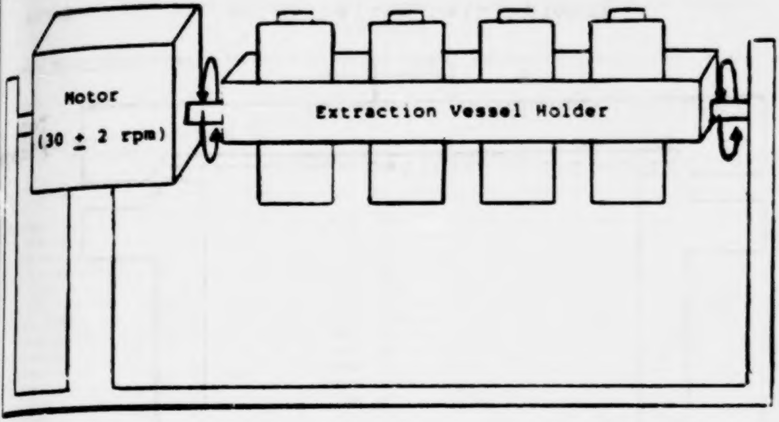
Motor
(30 ± 2 rpm)
Extraction Vessel Holder

Figure 2: Rotary Agitation

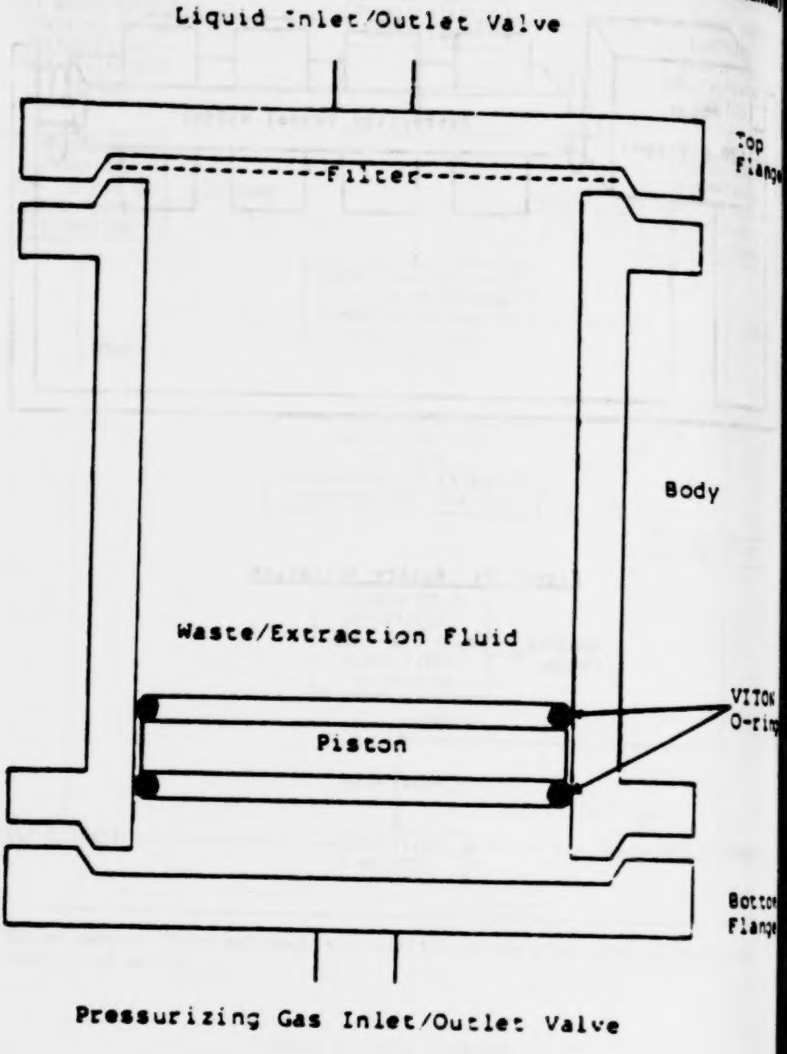
Liquid Inlet/Outlet Valve
Top Flange
Filter
Body
Waste/Extraction Fluid
VITON O-ring
Piston
Bottom Flange
Pressurizing Gas Inlet/Outlet Valve

Figure 3: Zero-Headspace Extraction Vessel

[51 FR 40643, Nov. 7, 1986; 52 FR 21018, June 4, 1987]

APPENDIX II—TREATMENT STANDARDS (AS CONCENTRATIONS IN THE TREATMENT RESIDUAL EXTRACT)

[Note: The technologies shown are the basis of the treatment standards. They are not required to be used in meeting the treatment standards]

Constituents of FOO1-FOO5 Spent Solvent Wastes	Waste Treatability Groups For FOO1-FOO5 Spent Solvent Wastes (mg/l)			
	Wastewater	Technology Basis [1]	Wastewater Generated by Pharmaceutical Plant [2]	All Other [3]
Acetone	0.05	SS		0.59
n-Butyl Alcohol	5.00	SS		5.00
Carbon disulfide	1.05	SS		4.81
Carbon tetrachloride	0.05	B		0.96
Chlorobenzene	0.15	B&AC		0.05
Cresols (cresylic acid)	2.82	AC		0.75
Cyclohexanone	0.125	SS		0.75
1,2-Dichlorobenzene	0.65	B&AC		0.125
Ethyl acetate	0.05	SS		0.75
Ethylbenzene	0.05	B		0.053
Ethyl ether	0.05	SS		0.75
sobutanol	5.00	SS		5.00
Methanol	0.25	SS		0.75
Methylene chloride	0.20	B	12.7	0.96
Methyl ethyl ketone	0.05	SS		0.75
Methyl isobutyl ketone	0.05	SS		0.33
itrobenzene	0.66	SS&AC		0.125
yridine	1.12	B&AC		0.33
Tetrachloroethylene	0.079	B		0.05
Toluene	1.12	B&AC		0.33
,1,1-Trichloroethane	1.05	SS		0.41
,1,2-Trichloro-1,2,2-trifluoroethane	1.05	SS		0.96
richloroethylene	0.062	B&AC		0.091
richlorofluoromethane	0.05	B		0.96
ylene	0.05	AC		0.15

[1] In some instances other technologies achieved somewhat lower treatment values but waste characterization data were ufficient to identify separate treatability groups. Refer to the BDAT background document for a detailed explanation of the etermination of the treatment standards.
SS=steam stripping
B=biological treatment
AC=activated carbon

[2] Wastewaters generated by pharmaceutical plants must be treated to the standards given for all other wastewaters except the case of methylene chloride.

[3] The treatment standards in this treatability group are based on incineration.

51 FR 40653, Nov. 7, 1986]

PPENDIX III—LIST OF HALOGENATED ORGANIC COMPOUNDS REGULATED UNDER § 268.32

In determining the concentration of OCs in a hazardous waste for purposes of e § 268.32 land disposal prohibition, EPA as defined the HOCs that must be includd in the calculation as any compounds aving a carbon-halogen bond which are sted in this Appendix (see § 268.2). Appenx III to Part 268 consists of the following mpounds:

Volatiles

romodichloromethane
romomethane
arbon Tetrachloride
hlorobenzene
Chloro-1,3-butadiene
Chlorodibromomethane
Chloroethane
2-Chloroethyl vinyl ether
Chloroform
Chloromethane
3-Chloropropene
1,2-Dibromo-3-chloropropane
1,2-Dibromomethane
Dibromomethane
Trans-1,4-Dichloro-2-butene
Dichlorodifluoromethane
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethylene
Trans-1,2-Dichloroethene
1,2-Dichloropropane
Trans-1,3-Dichloropropene
cis-1,3-Dichloropropene
Iodomethane
Methylene chloride
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethene

Tribromomethane
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethene
Trichloromonofluoromethane
1,2,3-Trichloropropane
Vinyl chloride

Semivolatiles

Bis(2-chloroethoxy)ethane
Bis(2-chloroethyl)ether
Bis(2-chloroisopropyl) ether
p-Chloroaniline
Chlorobenzilate
p-Chloro-m-cresol
2-Chloronaphthalene
2-Chlorophenol
3-Chloropropionitrile
m-Dichlorobenzene
o-Dichlorobenzene
p-Dichlorobenzene
3,3'-Dichlorobenzidine
2,4-Dichlorophenol
2,6-Dichlorophenol
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Hexachloroprophene
Hexachloropropene
4,4'-Methylenebis(2-chloroaniline)
Pentachlorobenzene
Pentachloroethane
Pentachloronitrobenzene
Pentachlorophenol
Pronamide
1,2,4,5-Tetrachlorobenzene
2,3,4,6-Tetrachlorophenol
1,2,4-Trichlorobenzene
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
Tris(2,3-dibromopropyl)phosphate

Organochlorine Pesticides

Aldrin
alpha-BHC
beta-BHC
delta-BHC
gamma-BHC
Chlordane
DDD
DDE
DDT
Dieldrin
Endosulfan I
Endosulfan II
Endrin
Endrin aldehyde
Heptachlor
Heptachlor epoxide
Isodrin
Kepone
Methoxyclor
Toxaphene

Phenoxyacetic Acid Herbicides

2,4-Dichlorophenoxyacetic acid
Silvex
2,4,5-T

PCBs

Aroclor 1016
Aroclor 1221
Aroclor 1232
Aroclor 1242
Aroclor 1248
Aroclor 1254
Aroclor 1260
PCBs not otherwise specified

Dioxins and Furans

Hexachlorodibenzo-p-dioxins
Hexachlorodibenzofuran
Pentachlorodibenzo-p-dioxins
Pentachlorodibenzofuran
Tetrachlorodibenzo-p-dioxins
Tetrachlorodibenzofuran
2,3,7,8-Tetrachlorodibenzo-p-dioxin

[52 FR 25791, July 8, 1987]

APPENDIX IV—ORGANOMETALLIC LAB PACKS

Hazardous waste with the following EPA waste codes may be placed in an "organometallic" or "Appendix IV lab pack:"

P001, P002, P003, P004, P005, P006, P007, P008, P009, P013, P014, P015, P016, P017, P018, P020, P022, P023, P024, P025, P026, P027, P028, P031, P034, P036, P037, P038, P039, P040, P041, P042, P043, P044, P045, P047, P048, P049, P050, P051, P054, P056, P057, P058, P059, P060, P062, P063, P064, P065, P066, P067, P068, P069, P070, P071, P072, P073, P074, P075, P077, P081, P082, P084, P085, P087, P088, P089, P092, P093, P094, P095, P096, P097, P098, P099, P101, P102, P103, P104, P105, P108, P109, P110, P112, P113, P114, P115, P116, P118, P119, P120, P122, P123

U001, U002, U003, U004, U005, U006, U007, U008, U009, U010, U011, U012, U014, U015, U016, U017, U018, U019, U020, U021, U022, U023, U024, U025, U026, U027, U028, U029, U030, U031, U032, U033, U034, U035, U036, U037, U038, U039, U041, U042, U043, U044, U045, U046, U047, U048, U049, U050, U051, U052, U053, U055, U056, U057, U058, U059, U060, U061, U062, U063, U064, U066, U067, U068, U069, U070, U071, U072, U073, U074, U075, U076, U077, U078, U079, U080, U081, U082, U083, U084, U085, U086, U087, U088, U089, U090, U091, U092, U093, U094, U095, U096, U097, U098, U099, U101, U102, U103, U105, U106, U107, U108, U109, U110, U111, U112, U113, U114, U115, U116, U117, U118, U119, U120, U121, U122, U123, U124, U125, U126, U127, U128, U129, U130, U131, U132, U133, U134, U135, U136, U137, U136, U137, U138, U139, U140, U141, U142, U143, U144, U145, U146, U147, U148, U149, U150, U152, U154, U153, U154, U155, U156, U157, U158, U159, U160, U161, U162, U164, U165, U166, U167, U168 U169, U170, U171, U172, U173, U174, U176, U177, U178, U179, U180, U181, U182, U183, U184, U185, U186 U187, U188, U189, U190, U191, U192, U193, U194, U196, U197, U200, U201, U202, U203, U204, U205, U206, U207, U208, U209, U210, U211, U213, U214, U215, U216, U217, U218, U219, U220, U221, U222, U223, U225, U226, U227, U228, U234, U235, U236, U237, U238, U239, U240, U243, U244, U246, U247, U248, U249, U328, U353, U359

F001, F002, F003, F004, F005, F006, F010, F020, F021, F023, F024, F026, F027, F028

K001, K002, K008, K009, K010, K011, K013, K014, K015, K016, K017, K018, K019, K020, K021, K022, K023, K024, K025, K026, K027, K028, K029, K030, K031, K032, K033, K034, K035, K036, K037, K038, K039, K040, K041, K042, K043, K044, K045, K046, K047, K048, K049, K050, K051, K052, K054, K060, K061, K064, K065, K066, K069, K071, K073, K083, K084, K085, K086, K087, K093, K094, K095, K096, K097, K098, K099, K101, K102, K103, K104, K105, K111, K112, K113, K114, K115, K116, K117, K118, K123, K124, K125, K126, K136

D001, D002, D003, D004, D005, D006, D007, D008, D010, D011, D012, D013, D014, D015, D016, D017

U032, U136, U144, U145, U146, U163, U214, U215, U216, U217

[55 FR 22713, June 1, 1990]

Appendix V—Organic Lab Packs

Hazardous wastes with the following EPA Hazardous Waste Code No. may be placed in an "organic" or "Appendix V:"

P001, P002, P003, P004, P005, P006, P007, P008, P009, P013, P014, P015, P016, P017, P018, P020, P022, P023, P025, P024, P026, P027, P028, P031, P034, P036, P037, P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048, P049, P050, P051, P054, P057, P058, P059, P060, P062, P063, P064, P064, P065, P066, P067, P068, P069, P070, P071, P072, P073, P074, P075, P077, P081, P082, P084, P085, P087, P088, P089, P092, P093, P094, P095, P096, P097, P098, P099, P101, P102, P103, P104, P105, P108, P109, P110, P111, P112, P113, P114, P115, P116, P118, P119, P120, P122, P123

U001, U002, U003, U004, U005, U006, U007, U008, U009, U010, U011, U012, U014, U015, U016, U017, U018, U019, U020, U021, U022, U023, U024, U025, U026, U027, U028, U029, U030, U031, U033, U034, U035, U036, U037, U038, U039, U041, U042, U043, U044, U045, U046, U047, U048, U049, U050, U051, U052, U053, U055, U056, U057, U058, U059, U060, U061, U062, U063, U064, U066, U067, U068, U069, U070, U071, U072, U073, U074, U075, U076, U077, U078, U079, U080, U081, U082, U083, U084, U085, U086, U087, U088, U089, U090, U091, U092, U093, U094, U095, U096, U097, U098, U099, U101, U102, U103, U105, U106, U107, U108, U109, U110, U111, U112, U113, U114, U115, U116, U117, U118, U119, U120, U121, U122, U123, U124, U125, U126, U127, U128, U129, U130, U131, U132, U133, U135, U137, U138, U139, U140, U141, U142, U143, U147, U148, U149, U150, U153, U154, U155, U156, U157, U158, U159, U160, U161, U162, U163, U164, U165, U166, U167, U168 U169, U170, U171, U172, U173, U174, U176, U177, U178, U179, U180, U181, U182, U183, U184, U185, U186 U187, U188, U189, U190, U191, U192, U193, U194, U196, U197, U200, U201, U202, U203, U205, U206, U207, U208, U209, U210, U211, U213, U214, U218, U219, U220, U221, U222, U223, U225, U226, U227, U228, U234, U235, U236, U237, U238, U239, U240, U243, U244, U246, U247, U248, U249, U328, U353, U359

F001, F002, F003, F004, F005, F010, F020, F021, F023, F024, F026, F027, F028

K001, K009, K010, K011, K013, K014, K015, K016, K017, K018, K019, K020, K021, K022, K023, K024, K025, K026, K027, K029, K030, K031, K032, K033, K034, K035, K036, K037, K038, K039, K040, K041, K042, K043, K044, K045, K046, K047, K048, K049, K050, K051, K052, K054, K060, K065, K073, K083, K084, K085, K086, K087, K093, K094, K095, K096, K097, K098, K099, K101, K102, K103, K104, K105, K111, K112, K113, K114, K115, K116, K117, K118, K123, K124, K125, K126, K136

D001, D012, D013, D014, D015, D016, D017

[55 FR 22713, June 1, 1990]

Appendix VI—Recommended Technologies to Achieve Deactivation of Characteristics in Section 268.42

The treatment standard for many subcategories of D001, D002, and D003 wastes as well as for K044, K045, and K047 wastes is listed in 268.42 simply as "Deactivation to remove the characteristics of ignitability, corrosivity, and reactivity". EPA has determined that many technologies, when used alone or in combination, can achieve this standard. The following appendix presents a partial list of these technologies, utilizing the five letter technology codes established in 40 CFR 268.42 Table 1. Use of these specific technologies is not mandatory and does not preclude direct reuse, recovery, and/or the use of other pretreatment technologies provided deactivation is achieved and these alternative methods are not performed in units designated as land disposal.

Waste code/subcategory	Nonwastewaters	Wastewaters
D001 Ignitable Liquids based on 261.21(a)(1)—Low TOC Nonwastewater Subcategory (containing 1% to < 1[illegible] TOC)	RORGS	n.a.
	INCIN	
	WETOX	
	CHOXD	
	BIODG	
D001 Ignitable Liquids based on 261.21(a)(1)—Ignitable Wastewater Subcategory (containing < 1% TOC)	n.a.	RORGS
		INCIN
		WETOX
		CHOXD
		BIODG
D001 Compressed Gases based on 261.21(A)(3)	RCGAS	n.a.
	INCIN	
	FSUBS	
	ADGAS fb. INCIN	
	ADGAS fb. (CHOXD; or CHRED)	
D001 Ignitable Reactives based on 261.21(a)(2)	WTRRX	n.a.
	CHOXD	
	CHRED	
	STABL	
	INCIN	
D001 Ignitable Oxidizers based on 261.21(a)(4)	CHRED	CHRED
	INCIN	INCIN
D002 Acid Subcategory based on 261.22(a)(1) with pH less than or equal to 2	RCORR	NEUTR
	NEUTR	INCIN
	INCIN	
D002 Alkaline Subcategory based on 261.22(a)(1) with pH greater than or equal to 12.5	NEUTR	NEUTR
	INCIN	INCIN
D002 Other Corrosives based on 261.22(a)(2)	CHOXD	CHOXD
	CHRED	CHRED
	INCIN	INCIN
	STABL	
D003 Water Reactives based on 261.23(a) (2), (3), and (4)	INCIN	n.a.
	WTRRX	
	CHOXD	
	CHRED	
D003 Reactive Sulfides based on 261.23(a)(5)	CHOXD	CHOXD
	CHRED	CHRED
	INCIN	BIODG
	STABL	INCIN
D003 Explosives based on 261.23(a) (6), (7), and (8)	INCIN	INCIN
	CHOXD	CHOXD
	CHRED	CHRED
		BIODG
		CARBN

Waste code/subcategory	Nonwastewaters	Wastewaters
D003 Other Reactives based on 261.23(a)(1)	INCIN CHOXD CHRED	INCIN CHOXD CHRED BIODG CARBN
K044 Wastewater treatment sludges from the manufacturing and processing of explosives	CHOXD CHRED INCIN	CHOXD CHRED BIODG CARBN INCIN
K045 Spent carbon from the treatment of wastewaters containing explosives	CHOXD CHRED INCIN	CHOXD CHRED BIODG CARBN INCIN
K047 Pink/red water from TNT operations	CHOXD CHRED INCIN	CHOXD CHRED BIODG CARBN INCIN

Note: "n.a." stands for "not applicable". "fb." stands for "followed by".

[55 FR 22714, June 1, 1990]

APPENDIX VII.—EFFECTIVE DATES OF SURFACE DISPOSED WASTES REGULATED IN THE LDRs [a]

[Comprehensive List]

Waste code	Waste category	Effective date
California list	Liquid hazardous wastes, including free liquids associated with solid or sludge, containing free cyanides at concentrations greater than or equal to 1,000 mg/l or certain metals or compounds of these metals greater than or equal to the prohibition levels.	July 8, 1987.
California list	Liquid (aqueous) hazardous wastes having a pH less than or equal to 2.	July 8, 1987.
California list	Dilute HOC wastewaters, defined as HOC-waste mixtures that are primarily water and that contain greater than or equal to 1,000 mg/l but less than 10,000 mg/l.	July 8, 1987.
California list	Liquid hazardous waste containing PCBs greater than or equal to 50 ppm.	July 8, 1987.
California list	Other liquid and non-liquid hazardous wastes containing HOCs in total concentration greater than or equal to 1,000 mg.	Nov. 8, 1988.
California list	Soil and debris HOCs not from CERCLA/RCRA corrective actions.	July 8, 1989.
California list	Soil and debris HOCs from CERCLA/RCRA corrective actions.	Nov. 8, 1990.
D001	All	Aug. 8, 1990.
D002	All	Aug. 8, 1990.
D003	All	Aug. 8, 1990.
D004	Inorganic solid debris.	May 8, 1992.
D004	Nonwastewater	May 8, 1992.
D004	Wastewater	Aug. 8, 1990.
D005	Inorganic solid debris.	May 8, 1992.
D005	All others	Aug. 8, 1990.
D006	Inorganic solid debris.	May 8, 1992.
D006	All others	Aug. 8, 1990.
D007	Inorganic solid debris.	May 8, 1992.
D007	All others	Aug. 8, 1990.
D008	Inorganic solid debris.	May 8, 1992.
D008	Lead acid batteries	May 8, 1992.
D008	All others	Aug. 8, 1990.
D009	Inorganic solid debris.	May 8, 1992.
D009	High mercury nonwastewater.	May 8, 1992.
D009	Low mercury nonwastewater.	May 8, 1992.
D009	All others	Aug. 8, 1990.
D010	Inorganic solid debris.	May 8, 1992.
D010	All others	Aug. 8, 1990.
D011	Inorganic solid debris.	May 8, 1992.
D011	All others	Aug. 8, 1990.
D012	All	Aug. 8, 1990.
D013	All	Aug. 8, 1990.
D0014	All	Aug. 8, 1990.
D0015	All	Aug. 8, 1990.
D0016	All	Aug. 8, 1990.
D0017	All	Aug. 8, 1990.
F001-F005	All, except	Nov. 8, 1986.
F001-F005	Small quantity generators, CERCLA/RCRA corrective action, initial generator's solvent-water mixtures, solvent-containing sludges and solids, and non CERCLA/RCRA corrective action soils with less than 1 percent total solvent constituents.	Nov. 8, 1988.
F001-F005	Soil and debris	Nov. 8, 1990.
F002 [b]	All	Aug. 8, 1990.
F005 [c]	All	Aug. 8, 1990.
F006	Wastewater	Aug. 8, 1990.
F006	Nonwastewater	Aug. 8, 1988.
F006 (cyanides)	Nonwastewater	July 8, 1989.
F007	All	July 8, 1989.
F008	All	July 8, 1989.
F009	All	July 8, 1989.
F010	Soil and debris	June 8, 1991.
F010	All others	June 8, 1989.
F011	All	July 8, 1989.
F012	All	July 8, 1989.
F019	All	Aug. 8, 1990.
F020	Soil and debris	Nov. 8, 1990.
F020	All others	Nov. 8, 1988.
F021	Soil and debris	Nov. 8, 1990.
F021	All others	Nov. 8, 1988.
F022	Soil and debris	Nov. 8, 1990.
F022	All others	Nov. 8, 1988.

APPENDIX VII.—EFFECTIVE DATES OF SURFACE DISPOSED WASTES REGULATED IN THE LDRs [a]—Continued

[Comprehensive List]

Waste code	Waste category	Effective date
F023	Soil and debris	Nov. 8, 1990.
F023	All others	Nov. 8, 1988.
F024	Soil and debris	June 8, 1991.
F024 (metals)	Nonwastewater	Aug. 8, 1990.
F024 (dioxins/furans).	All	Aug. 8, 1990.
F024	All others	June 8, 1989.
F025	All	Aug. 8, 1990.
F026	Soil and debris	Nov. 8, 1990.
F026	All others	Nov. 8, 1988.
F027	Soil and debris	Nov. 8, 1990.
F027	All others	Nov. 8, 1988.
F028	Soil and debris	Nov. 8, 1990.
F028	All others	Nov. 8, 1988.
F039	Wastewater	Aug. 8, 1990.
F039	Nonwastewater	May. 8, 1992.
K001	Soil and debris	Aug. 8, 1990.
K001 (lead/organics).	All	Aug. 8, 1990.
K001	All others	Aug. 8, 1988.
K002	All	Aug. 8, 1990.
K003	All	Aug. 8, 1990.
K004	All	Aug. 8, 1990.
K005 [d]	All	Aug. 8, 1990.
K006	All	Aug. 8, 1990.
K007 [d]	All	Aug. 8, 1990.
K008	All	Aug. 8, 1990.
K009	Soil and debris	June 8, 1991.
K009	All others	June 8, 1989.
K010	Soil and debris	June 8, 1991.
K010	All others	June 8, 1989.
K011	Wastewater	Aug. 8, 1990.
K011	Nonwastewater	June 8, 1989.
K011	Soil and debris	June 8, 1991.
K013	Wastewater	Aug. 8, 1990.
K013	Nonwastewater	June 8, 1989.
K013	Soil and debris	June 8, 1991.
K014	Wastewater	Aug. 8, 1990.
K014	Nonwastewater	June 8, 1989.
K014	Soil and debris	June 8, 1991.
K015	Wastewater	Aug. 8, 1988.
K015	Nonwastewater	Aug. 8, 1990.
K016	Soil and debris	Aug. 8, 1990.
K016	All others	Aug. 8, 1988.
K017	All	Aug. 8, 1990.
K018	Soil and debris	Aug. 8, 1990.
K018	All others	Aug. 8, 1988.
K019	Soil and debris	Aug. 8, 1990.
K019	All others	Aug. 8, 1988.
K020	Soil and debris	Aug. 8, 1990.
K020	All others	Aug. 8, 1988.
K021 [e]	All	Aug. 8, 1990.
K022	Wastewater	Aug. 8, 1990.
K022	Nonwastewater	Aug. 8, 1988.
K022	Soil and debris	Aug. 8, 1990.
K023	Soil and debris	June 8, 1991.
K023	All others	June 8, 1989.
K024	Soil and debris	Aug. 8, 1990.
K024	All others	Aug. 8, 1988.
K025 [e]	All	Aug. 8, 1990.
K026	All	Aug. 8, 1990.
K027	Soil and debris	June 8, 1991.
K027	All others	June 8, 1989.
K028	Soil and debris	June 8, 1991.
K028 (metals)	Nonwastewater	Aug. 8, 1990.
K028	All others	June 8, 1989.
K029	Wastewater	Aug. 8, 1990.
K029	Nonwastewater	June 8, 1989.
K029	Soil and debris	June 8, 1991.
K030	Soil and debris	Aug. 8, 1990.
K030	All others	Aug. 8, 1988.
K031	Wastewater	Aug. 8, 1990.
K031	Nonwastewater	May 8, 1992.
K032	All	Aug. 8, 1990.
K033	All	Aug. 8, 1990.
K034	All	Aug. 8, 1990.
K035	All	Aug. 8, 1990.
K036 [e]	All	Aug. 8, 1990.
K037	Soil and debris	Aug. 8, 1990.
K037	Wastewater	Aug. 8, 1990.
K037	All others	Aug. 8, 1988.
K038	Soil and debris	June 8, 1991.
K038	All others	June 8, 1989.
K039	Soil and debris	June 8, 1991.
K039	All others	June 8, 1989.
K040	Soil and debris	June 8, 1991.
K040	All others	June 8, 1989.
K041	All	Aug. 8, 1990.
K042	All	Aug. 8, 1990.
K043	Soil and debris	June 8, 1991.
K043	All others	June 8, 1989.
K044	All	Aug. 8, 1990.
K045	All	Aug. 8, 1990.
K046	Nonreactive nonwastewater.	Aug. 8, 1988.
K046	All others	Aug. 8, 1990.
K047	All	Aug. 8, 1990.
K048	Wastewater	Aug. 8, 1990.
K048	Nonwastewater	Nov. 8, 1990.
K049	Wastewater	Aug. 8, 1990.
K049	Nonwastewater	Nov. 8, 1990.
K050	Wastewater	Aug. 8, 1990.
K050	Nonwastewater	Nov. 8, 1990.
K051	Wastewater	Aug. 8, 1990.
K051	Nonwastewater	Nov. 8, 1990.
K052	Wastewater	Aug. 8, 1990.
K052	Nonwastewater	Nov. 8, 1990.
K060 [e]	All	Aug. 8, 1990.
K061	Wastewater	Aug. 8, 1990.
K061	Nonwastewater	Aug. 8, 1988.
K062	All	Aug. 8, 1988.
K069	All	Aug. 8, 1990.
K073	All	Aug. 8, 1990.
K083	All	Aug. 8, 1990.
K084	Wastewater	Aug. 8, 1990.
K084	Nonwastewater	May 8, 1992.
K085	All	Aug. 8, 1990.
K086	All	Aug. 8, 1990.
K087	Soil and debris	Aug. 8, 1990.
K087	All others	Aug. 8, 1988.
K093	Soil and debris	June 8, 1991.
K093	All others	June 8, 1989.
K094	Soil and debris	June 8, 1991.
K094	All others	June 8, 1989.
K095	Wastewater	Aug. 8, 1990.
K095	Nonwastewater	June 8, 1989.
K095	Soil and debris	June 8, 1991.
K096	Wastewater	Aug. 8, 1990.
K096	Nonwastewater	June 8, 1989.
K096	Soil and debris	June 8, 1991.
K097	All	Aug. 8, 1990.
K098	All	Aug. 8, 1990.

APPENDIX VII.—EFFECTIVE DATES OF SURFACE DISPOSED WASTES REGULATED IN THE LDRs[a]—Continued

[Comprehensive List]

Waste code	Waste category	Effective date
K099	All	Aug. 8, 1988.
K100[c]	All	Aug. 8, 1990.
K101	Wastewater	Aug. 8, 1988.
K101	Nonwastewater	May 8, 1992.
K102	Wastewater	Aug. 8, 1988.
K102	Nonwastewater	May 8, 1992.
K103	Soil and debris	Aug. 8, 1990.
K103	All others	Aug. 8, 1988.
K104	Soil and debris	Aug. 8, 1990.
K104	All others	Aug. 8, 1988.
K105	All	Aug. 8, 1990.
K106	High mercury nonwastewater.	May 8, 1992.
K106	Low mercury nonwastewater.	May. 8, 1992.
K106	All others	Aug. 8, 1990.
K113	Soil and debris	June 8, 1991.
K113	All others	June 8, 1989.
K114	Soil and debris	June 8, 1991.
K114	All others	June 8, 1989.
K115	Soil and debris	June 8, 1991.
K115	All others	June 8, 1989.
K116	Soil and debris	June 8, 1991.
K116	All others	June 8, 1989.
P001	All	Aug. 8, 1990.
P002	All	Aug. 8, 1990.
P003	All	Aug. 8, 1990.
P004	All	Aug. 8, 1990.
P005	All	Aug. 8, 1990.
P006	All	Aug. 8, 1990.
P007	All	Aug. 8, 1990.
P008	All	Aug. 8, 1990.
P009	All	Aug. 8, 1990.
P010	Wastewater	Aug. 8, 1990.
P010	Nonwastewater	May 8, 1992.
P011	Wastewater	Aug. 8, 1990.
P011	Nonwastewater	May 8, 1992.
P012	Wastewater	Aug. 8, 1990.
P012	Nonwastewater	May 8, 1992.
P013	All	Aug. 8, 1990.
P014	All	Aug. 8, 1990.
P015	All	Aug. 8, 1990.
P016	All	Aug. 8, 1990.
P017	All	Aug. 8, 1990.
P018	All	Aug. 8, 1990.
P020	All	Aug. 8, 1990.
P021	All	June 8, 1989.
P022	All	Aug. 8, 1990.
P023	All	Aug. 8, 1990.
P024	All	Aug. 8, 1990.
P026	All	Aug. 8, 1990.
P027	All	Aug. 8, 1990.
P028	All	Aug. 8, 1990.
P029	All	June 8, 1989.
P030	All	June 8, 1989.
P031	All	Aug. 8, 1990.
P033	All	Aug. 8, 1990.
P034	All	Aug. 8, 1990.
P036	Wastewater	Aug. 8, 1990.
P036	Nonwastewater	May 8, 1992.
P037	All	Aug. 8, 1990.
P038	Wastewater	Aug. 8, 1990.
P038	Nonwastewater	May 8, 1992.
P039	Soil and debris	June 8, 1991.
P039	All others	June 8, 1989.
P040	Soil and debris	June 8, 1991.
P040	All others	June 8, 1989.
P041	Soil and debris	June 8, 1991.
P041	All others	June 8, 1989.
P042	All	Aug. 8, 1990.
P043	Soil and debris	June 8, 1991.
P043	All others	June 8, 1989.
P044	Soil and debris	June 8, 1991.
P044	All others	June 8, 1989.
P045	All	Aug. 8, 1990.
P046	All	Aug. 8, 1990.
P047	All	Aug. 8, 1990.
P048	All	Aug. 8, 1990.
P049	All	Aug. 8, 1990.
P050	All	Aug. 8, 1990.
P051	All	Aug. 8, 1990.
P054	All	Aug. 8, 1990.
P056	All	Aug. 8, 1990.
P057	All	Aug. 8, 1990.
P058	All	Aug. 8, 1990.
P059	All	Aug. 8, 1990.
P060	All	Aug. 8, 1990.
P062	Soil and debris	June 8, 1991.
P062	All others	June 8, 1989.
P063	All	June 8, 1989.
P064	All	Aug. 8, 1990.
P065	High mercury nonwastewater.	May 8, 1992.
P065	Low mercury nonwastewater.	May 8, 1992.
P065	All others	Aug. 8, 1990.
P066	All	Aug. 8, 1990.
P067	All	Aug. 8, 1990.
P068	All	Aug. 8, 1990.
P069	All	Aug. 8, 1990.
P070	All	Aug. 8, 1990.
P071	Soil and debris	June 8, 1991.
P071	All others	June 8, 1989.
P072	All	Aug. 8, 1990.
P073	All	Aug. 8, 1990.
P074	All	June 8, 1989.
P075	All	Aug. 8, 1990.
P076	All	Aug. 8, 1990.
P077	All	Aug. 8, 1990.
P078	All	Aug. 8, 1990.
P081	All	Aug. 8, 1990.
P082	All	Aug. 8, 1990.
P084	All	Aug. 8, 1990.
P085	Soil and debris	June 8, 1991.
P085	All others	June 8, 1989.
P087	All	May 8, 1992.
P088	All	Aug. 8, 1990.
P089	Soil and debris	June 8, 1991.
P089	All others	June 8, 1989.
P092	High mercury nonwastewater	May 8, 1992.
P092	Low mercury nonwastewater	May 8, 1992.
P092	All others	Aug. 8, 1990.
P093	Soil and debris	May 8, 1992.
P093	All others	Aug. 8, 1990.
P094	Soil and debris	June 8, 1991.
P094	All others	June 8, 1989.
P095	Soil and debris	May 8, 1992.
P095	All others	Aug. 8, 1990.
P096	All	Aug. 8, 1990.
P097	Soil and debris	June 8, 1991.

APPENDIX VII.—EFFECTIVE DATES OF SURFACE DISPOSED WASTES REGULATED IN THE LDRs [a]—Continued

[Comprehensive List]

Waste code	Waste category	Effective date
P097	All others	June 8, 1989.
P098	All	June 8, 1989.
P099 (silver)	Wastewater	Aug. 8, 1990.
P099 (cyanides).	Wastewater	June 8, 1989.
P099 (cyanides/silver).	Nonwastewater	June 8, 1989.
P101	All	Aug. 8, 1990.
P102	All	Aug. 8, 1990.
P103	All	Aug. 8, 1990.
P104 (silver)	Wastewater	Aug. 8, 1990.
P104 (cyanides).	Wastewater	June 8, 1989.
P104 (cyanides/silver).	Nonwastewater	June 8, 1989.
P105	All	Aug. 8, 1990.
P106	All	June 8, 1989.
P108	Soil and debris	May 8, 1992.
P108	All others	Aug. 8, 1990.
P109	Soil and debris	June 8, 1991.
P109	All others	June 8, 1989.
P110	All	Aug. 8, 1990.
P111	Soil and debris	June 8, 1991.
P111	All others	June 8, 1989.
P112	All	Aug. 8, 1990.
P113	All	Aug. 8, 1990.
P114	All	Aug. 8, 1990.
P115	All	Aug. 8, 1990.
P116	Soil and debris	May 8, 1992.
P116	All others	Aug. 8, 1990.
P118	Soil and debris	May 8, 1992.
P118	All others	Aug. 8, 1990.
P119	All	Aug. 8, 1990.
P120	All	Aug. 8, 1990.
P121	All	June 8, 1989.
P122	All	Aug. 8, 1990.
P123	All	Aug. 8, 1990.
U001	All	Aug. 8, 1990.
U002	All	Aug. 8, 1990.
U003	Soil and debris	May 8, 1992.
U003	All others	Aug. 8, 1990.
U004	All	Aug. 8, 1990.
U005	All	Aug. 8, 1990.
U006	Soil and debris	May 8, 1992.
U006	All others	Aug. 8, 1990.
U007	Soil and debris	May 8, 1992.
U007	All others	Aug. 8, 1990.
U008	All	Aug. 8, 1990.
U009	All	Aug. 8, 1990.
U010	Soil and debris	May 8, 1992.
U010	All others	Aug. 8, 1990.
U011	Soil and debris	May 8, 1992.
U011	All others	Aug. 8, 1990.
U012	All	Aug. 8, 1990.
U014	Soil and debris	May 8, 1992.
U014	All others	Aug. 8, 1990.
U015	Soil and debris	May 8, 1992.
U015	All others	Aug. 8, 1990.
U016	All	Aug. 8, 1990.
U017	Soil and debris	May 8, 1992.
U017	All others	Aug. 8, 1990.
U018	All	Aug. 8, 1990.
U019	All	Aug. 8, 1990.
U020	Soil and debris	May 8, 1992.

APPENDIX VII.—EFFECTIVE DATES OF SURFACE DISPOSED WASTES REGULATED IN THE LDRs [a]—Continued

[Comprehensive List]

Waste code	Waste category	Effective date
U020	All others	Aug. 8, 1990.
U021	Soil and debris	May 8, 1992.
U021	All others	Aug. 8, 1990.
U022	All	Aug. 8, 1990.
U023	All	Aug. 8, 1990.
U024	All	Aug. 8, 1990.
U025	All	Aug. 8, 1990.
U026	Soil and debris	May 8, 1992.
U026	All others	Aug. 8, 1990.
U027	All	Aug. 8, 1990.
U028	Soil and debris	June 8, 1991.
U028	All others	June 8, 1989.
U029	All	Aug. 8, 1990.
U030	All	Aug. 8, 1990.
U031	All	Aug. 8, 1990.
U032	All	Aug. 8, 1990.
U033	Soil and debris	May 8, 1992.
U033	All others	Aug. 8, 1990.
U034	Soil and debris	May 8, 1992.
U034	All others	Aug. 8, 1990.
U035	Soil and debris	May 8, 1992.
U035	All others	Aug. 8, 1990.
U036	All	Aug. 8, 1990.
U037	All	Aug. 8, 1990.
U038	Soil and debris	May 8, 1992.
U038	All others	Aug. 8, 1990.
U039	All	Aug. 8, 1990.
U041	Soil and debris	May 8, 1992.
U041	All others	Aug. 8, 1990.
U042	Soil and debris	May 8, 1992.
U042	All others	Aug. 8, 1990.
U043	All	Aug. 8, 1990.
U044	All	Aug. 8, 1990.
U045	All	Aug. 8, 1990.
U046	Soil and debris	May 8, 1992.
U046	All others	Aug. 8, 1990.
U047	All	Aug. 8, 1990.
U048	All	Aug. 8, 1990.
U049	Soil and debris	May 8, 1992.
U049	All others	Aug. 8, 1990.
U050	All	Aug. 8, 1990.
U051	All	Aug. 8, 1990.
U052	All	Aug. 8, 1990.
U053	All	Aug. 8, 1990.
U055	All	Aug. 8, 1990.
U056	All	Aug. 8, 1990.
U057	All	Aug. 8, 1990.
U058	Soil and debris	June 8, 1992.
U058	All others	June 8, 1989.
U059	Soil and debris	May 8, 1992.
U059	All others	Aug. 8, 1990.
U060	Soil and debris	May 8, 1992.
U060	All others	Aug. 8, 1990.
U061	Soil and debris	May 8, 1992.
U061	All others	Aug. 8, 1990.
U062	Soil and debris	May 8, 1992.
U062	All others	Aug. 8, 1990.
U063	All	Aug. 8, 1990.
U064	All	Aug. 8, 1990.
U066	All	Aug. 8, 1990.
U067	All	Aug. 8, 1990.
U068	All	Aug. 8, 1990.
U069	Soil and debris	June 8, 1991.
U069	All others	June 8, 1989.
U070	All	Aug. 8, 1990.
U071	All	Aug. 8, 1990.

PPENDIX VII.—EFFECTIVE DATES OF SURFACE DISPOSED WASTES REGULATED IN THE LDRs [a]—Continued

[Comprehensive List]

aste code	Waste category	Effective date
72	All	Aug. 8, 1990.
73	Soil and debris	May 8, 1992.
73	All others	Aug. 8, 1990.
74	Soil and debris	May 8, 1992.
74	All others	Aug. 8, 1990.
75	All	Aug. 8, 1990.
76	All	Aug. 8, 1990.
77	All	Aug. 8, 1990.
78	All	Aug. 8, 1990.
79	All	Aug. 8, 1990.
0	All	Aug. 8, 1990.
1	All	Aug. 8, 1990.
2	All	Aug. 8, 1990.
3	All	Aug. 8, 1990.
4	All	Aug. 8, 1990.
5	All	Aug. 8, 1990.
6	All	Aug. 8, 1990.
7	Soil and debris	June 8, 1991.
7	All others	June 8, 1989.
8	Soil and debris	June 8, 1991.
8	All others	June 8, 1989.
9	All	Aug. 8, 1990.
0	All	Aug. 8, 1990.
1	Soil and Debris	May 8, 1992.
1	All others	Aug. 8, 1990.
2	Soil and debris	May 8, 1992.
2	All others	Aug. 8, 1990.
3	Soil and debris	May 8, 1992.
3	All others	Aug. 8, 1990.
4	All	Aug. 8, 1990.
5	Soil and debris	May 8, 1992.
5	All others	Aug. 8, 1990.
6	All	Aug. 8, 1990.
7	Soil and debris	May 8, 1992.
7	All others	Aug. 8, 1990.
8	All	Aug. 8, 1990.
9	All	Aug. 8, 1990.
1	All	Aug. 8, 1990.
2	Soil and debris	June 8, 1991.
2	All others	June 8, 1989.
3	All	Aug. 8, 1990.
5	All	Aug. 8, 1990.
6	All	Aug. 8, 1990.
7	Soil and debris	June 8, 1991.
7	All others	June 8, 1989.
8	All	Aug. 8, 1990.
9	All	Aug. 8, 1990.
0	Soil and debris	May 8, 1992.
0	All others	Aug. 8, 1990.
1	All	Aug. 8, 1990.
2	All	Aug. 8, 1990.
3	All	Aug. 8, 1990.
4	Soil and debris	May 8, 1992.
4	All others	Aug. 8, 1990.
5	All	Aug. 8, 1990.
6	Soil and debris	May 8, 1992.
6	All others	Aug. 8, 1990.
7	All	Aug. 8, 1990.
8	All	Aug. 8, 1990.
9	Soil and debris	May 8, 1992.
9	All others	Aug. 8, 1990.
0	All	Aug. 8, 1990.
1	All	Aug. 8, 1990.
2	All	Aug. 8, 1990.
3	All	Aug. 8, 1990.
4	All	Aug. 8, 1990.

APPENDIX VII.—EFFECTIVE DATES OF SURFACE DISPOSED WASTES REGULATED IN THE LDRs [a]—Continued

[Comprehensive List]

Waste code	Waste category	Effective date
U125	All	Aug. 8, 1990.
U126	All	Aug. 8, 1990.
U127	All	Aug. 8, 1990.
U128	All	Aug. 8, 1990.
U129	All	Aug. 8, 1990.
U130	Soil and debris	May 8, 1992.
U130	All others	Aug. 8, 1990.
U131	All	Aug. 8, 1990.
U132	Soil and debris	May 8, 1992.
U132	All others	Aug. 8, 1990.
U133	All	Aug. 8, 1990.
U134	All	Aug. 8, 1990.
U135	All	Aug. 8, 1990.
U136	Wastewater	Aug. 8, 1990.
U136	Nonwastewater	May 8, 1992.
U137	All	Aug. 8, 1990.
U138	All	Aug. 8, 1990.
U140	All	Aug. 8, 1990.
U141	All	Aug. 8, 1990.
U142	All	Aug. 8, 1990.
U143	Soil and debris	May 8, 1992.
U143	All others	Aug. 8, 1990.
U144	All	Aug. 8, 1990.
U145	All	Aug. 8, 1990.
U146	All	Aug. 8, 1990.
U147	All	Aug. 8, 1990.
U148	Soil and debris	May 8, 1992.
U148	All others	Aug. 8, 1990.
U149	Soil and debris	May 8, 1992.
U149	All others	Aug. 8, 1990.
U150	Soil and debris	May 8, 1992.
U150	All others	Aug. 8, 1990.
U151	High mercury nonwastewater.	May 8, 1992.
U151	Low mercury nonwastewater.	May 8, 1992.
U151	Soil and debris	May 8, 1992.
U151	All others	Aug. 8, 1990.
U152	All	Aug. 8, 1990.
U153	Soil and debris	May 8, 1992.
U153	All others	Aug. 8, 1990.
U154	All	Aug. 8, 1990.
U155	All	Aug. 8, 1990.
U156	Soil and debris	May 8, 1992.
U156	All others	Aug. 8, 1990.
U157	All	Aug. 8, 1990.
U158	All	Aug. 8, 1990.
U159	All	Aug. 8, 1990.
U160	All	Aug. 8, 1990.
U161	All	Aug. 8, 1990.
U162	All	Aug. 8, 1990.
U163	Soil and debris	May 8, 1992.
U163	All others	Aug. 8, 1990.
U164	Soil and debris	May 8, 1992.
U164	All others	Aug. 8, 1990.
U165	All	Aug. 8, 1990.
U166	All	Aug. 8, 1990.
U167	Soil and debris	May 8, 1992.
U167	All others	Aug. 8, 1990.
U168	Soil and debris	May 8, 1992.
U168	All others	Aug. 8, 1990.
U169	All	Aug. 8, 1990.
U170	All	Aug. 8, 1990.
U171	Soil and debris	May 8, 1992.
U171	All others	Aug. 8, 1990.
U172	All	Aug. 8, 1990.

APPENDIX VII.—EFFECTIVE DATES OF SURFACE DISPOSED WASTES REGULATED IN THE LDRs [a]—Continued

[Comprehensive List]

Waste code	Waste category	Effective date
U173	Soil and debris	May 8, 1992.
U173	All others	Aug. 8, 1990.
U174	All	Aug. 8, 1990.
U176	Soil and debris	May 8, 1992.
U176	All others	Aug. 8, 1990.
U177	Soil and debris	May 8, 1992.
U177	All others	Aug. 8, 1990.
U178	Soil and debris	May 8, 1992.
U178	All others	Aug. 8, 1990.
U179	All	Aug. 8, 1990.
U180	All	Aug. 8, 1990.
U181	All	Aug. 8, 1990.
U182	All	Aug. 8, 1990.
U183	All	Aug. 8, 1990.
U184	Soil and debris	May 8, 1992.
U184	All others	Aug. 8, 1990.
U185	All	Aug. 8, 1990.
U186	All	Aug. 8, 1990.
U187	All	Aug. 8, 1990.
U188	All	Aug. 8, 1990.
U189	All	Aug. 8, 1990.
U190	Soil and debris	June 8, 1991.
U190	All others	June 8, 1989.
U191	Soil and debris	May 8, 1992.
U191	All others	Aug. 8, 1990.
U192	All	Aug. 8, 1990.
U193	Soil and debris	May 8, 1992.
U193	All others	Aug. 8, 1990.
U194	Soil and debris	May 8, 1992.
U194	All others	Aug. 8, 1990.
U196	All	Aug. 8, 1990.
U197	All	Aug. 8, 1990.
U200	Soil and debris	May 8, 1992.
U200	All others	Aug. 8, 1990.
U201	All	Aug. 8, 1990.
U202	Soil and debris	May 8, 1992.
U202	All others	Aug. 8, 1990.
U203	All	Aug. 8, 1990.
U204	All	Aug. 8, 1990.
U205	All	Aug. 8, 1990.
U206	Soil and debris	May 8, 1992.
U206	All others	Aug. 8, 1990.
U207	All	Aug. 8, 1990.
U208	All	Aug. 8, 1990.
U209	All	Aug. 8, 1990.
U210	All	Aug. 8, 1990.
U211	All	Aug. 8, 1990.
U213	All	Aug. 8, 1990.
U214	All	Aug. 8, 1990.
U215	All	Aug. 8, 1990.
U216	All	Aug. 8, 1990.
U217	All	Aug. 8, 1990.
U218	Soil and debris	May 8, 1992.
U218	All others	Aug. 8, 1990.
U219	Soil and debris	May 8, 1992.
U219	All others	Aug. 8, 1990.
U220	All	Aug. 8, 1990.
U221	Soil and debris	June 8, 1991.
U221	All others	June 8, 1989.
U222	Soil and debris	May 8, 1992.
U222	All others	Aug. 8, 1990.
U223	Soil and debris	June 8, 1991.
U223	All others	June 8, 1989.
U225	All	Aug. 8, 1990.
U226	All	Aug. 8, 1990.
U227	All	Aug. 8, 1990.
U228	All	Aug. 8, 1990.
U234	Soil and debris	May 8, 1992.
U234	All others	Aug. 8, 1990.
U235	Soil and debris	June 8, 1991.
U235	All others	June 8, 1989.
U236	Soil and debris	May 8, 1992.
U236	All others	Aug. 8, 1990.
U237	Soil and debris	May 8, 1992.
U237	All others	Aug. 8, 1990.
U238	Soil and debris	May 8, 1992.
U238	All others	Aug. 8, 1990.
U239	All	Aug. 8, 1990.
U240	Soil and debris	May 8, 1992.
U240	All others	Aug. 8, 1990.
U243	All	Aug. 8, 1990.
U244	Soil and debris	May 8, 1992.
U244	All others	Aug. 8, 1990.
U246	All	Aug. 8, 1990.
U247	All	Aug. 8, 1990.
U248	All	Aug. 8, 1990.
U249	All	Aug. 8, 1990.

[a] This table does not include mixed radioactive wastes (from the First, Second, and Third Third rules) which are receiving a national capacity variance until May 8, 1992 for all applicable treatment technologies.

[b] Standards are being promulgated for 1,1,2-trichloroethane and 2-nitropropane for wastewaters and nonwastewaters.

[c] Standards are being promulgated for benzene and 2-ethoxyethanol for wastewaters and nonwastewaters.

[d] Treatment standards for nonwastewaters disposed of after June 8, 1989, were promulgated June 8, 1989.

[e] Treatment standards for nonwastewaters disposed of after August 17, 1988, were promulgated May 2, 1989.

Note: This table is provided for the convenience of the reader.

[55 FR 22715, June 1, 1990]

APPENDIX VIII—NATIONAL CAPACITY LDR VARIANCES FOR UIC WASTES [a] Comprehensive List

Waste code	Waste category	Effective date
F001–F005	All spent F001–F005 solvent containing less than 1 percent total F001–F005 solvent constituents.	August 8, 1990.
California list	Liquid hazardous wastes, including free liquids associated with any solid or sludge, containing free cyanides at concentrations greater than or equal to 1,000 mg/l, or containing certain metals or compounds of these metals greater than or equal to the prohibition levels.	August 8, 1990.

APPENDIX VIII—NATIONAL CAPACITY LDR VARIANCES FOR UIC WASTES [a] Comprehensive List—Continued

Waste code	Waste category	Effective date
California list	Liquid hazardous waste having a pH less than or equal to 2.	August 8, 1990.
California list	Hazardous wastes containing HOCs in total concentrations less than 10,000 mg/l but greater than or equal to 1,000 mg/l.	August 8, 1990.
D002 [b]	All	May 8, 1992.
D003 (cyanides)	All	May 8, 1992.
D003 (sulfides)	All	May 8, 1992.
D003 (explosives, reactives)	All	May 8, 1992.
D007	All	May 8, 1992.
D009	High Mercury Nonwastewater	May 8, 1992.
D009	Low Mercury Nonwastewater	May 8, 1992.
F011	All	June 8, 1991.
F039	Wastewater	May 8, 1992.
K009	Wastewater	June 8, 1991.
K011	Nonwastewater	June 8, 1991.
K011	Wastewater	May 8, 1992.
K013	Nonwastewater	June 8, 1991.
K013	Wastewater	May 8, 1992.
K014	All	May 8, 1992.
K016 (dilute)	All	June 8, 1991.
K048	All	August 8, 1990.
K049	All	August 8, 1990.
K050	All	August 8, 1990.
K051	All	August 8, 1990.
K052	All	August 8, 1990.
062	All	August 8, 1990.
071	All	August 8, 1990.
104	All	August 8, 1990.

[a] Wastes that are deep well disposed on-site receive a six-month variance, with restrictions effective in November 1990.
[b] Deepwell injected D002 liquids with a pH less than 2 must meet the California List treatment standards on August 8, 1990.

Note: This table is provided for the convenience of the reader.

55 FR 22718, June 1, 1990]

ART 270—EPA ADMINISTERED PERMIT PROGRAMS: THE HAZARDOUS WASTE PERMIT PROGRAM

Subpart A—General Information

ec.
70.1 Purpose and scope of these regulations.
70.2 Definitions.
70.3 Considerations under Federal law.
70.4 Effect of a permit.
70.5 Noncompliance and program reporting by the Director.
70.6 References.

Subpart B—Permit Application

0.10 General application requirements.
0.11 Signatories to permit applications and reports.
0.12 Confidentiality of information.
0.13 Contents of Part A of the permit application.
0.14 Contents of Part B: General requirements.
0.15 Specific Part B information requirements for containers.
Sec.
270.16 Specific Part B information requirements for tank systems.
270.17 Specific Part B information requirements for surface impoundments.
270.18 Specific Part B information requirements for waste piles.
270.19 Specific Part B information requirements for incinerators.
270.20 Specific Part B information requirements for land treatment facilities.
270.21 Specific Part B information requirements for landfills.
270.22 [Reserved]
270.23 Specific Part B information requirements for miscellaneous units.
270.24 Specific Part B information requirements for process vents.
270.25 Specific part B information requirements for equipment.
270.26—270.28 [Reserved]
270.29 Permit denial.

Subpart C—Permit Conditions

270.30 Conditions applicable to all permits.
270.31 Requirements for recording and reporting of monitoring results.
270.32 Establishing permit conditions.

Sec.
270.33 Schedules of compliance.

Subpart D—Changes to Permits

270.40 Transfer of permits.
270.41 Modification or revocation and reissuance of permits.
270.42 Permit modification at the request of the permittee.
270.43 Termination of permits.

Subpart E—Expiration and Continuation of Permits

270.50 Duration of permits.
270.51 Continuation of expiring permits.

Subpart F—Special Forms of Permits

270.60 Permits by rule.
270.61 Emergency permits.
270.62 Hazardous waste incinerator permits.
270.63 Permits for land treatment demonstrations using field test or laboratory analyses.
270.64 Interim permits for UIC wells.
270.65 Research, development, and demonstration permits.

Subpart G—Interim Status

270.70 Qualifying for interim status.
270.71 Operation during interim status.
270.72 Changes during interim status.
270.73 Termination of interim status.

AUTHORITY: 42 U.S.C. 6905, 6912, 6924, 6925, 6927, 6939, and 6974.

SOURCE: 48 FR 14228, Apr. 1, 1983, unless otherwise noted.

Subpart A—General Information

§ 270.1 Purpose and scope of these regulations.

(a) *Coverage.* (1) These permit regulations establish provisions for the Hazardous Waste Permit Program under Subtitle C of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (RCRA), (Pub. L. 94-580, as amended by Pub. L. 95-609 and by Pub. L. 96-482; 42 U.S.C. 6091 et seq.). They apply to EPA and to approved States to the extent provided in Part 271.

(2) The regulations in this part cover basic EPA permitting requirements, such as application requirements, standard permit conditions, and monitoring and reporting requirements. These regulations are part of a regulatory scheme implementing RCRA set forth in different parts of the Code of Federal Regulations. The following chart indicates where the regulations implementing RCRA appear in the Code of Federal Regulations.

Section of RCRA	Coverage	Final regulation
Subtitle C ..	Overview and definitions ...	40 CFR Part 260
3001..........	Indentification and listing of hazardous waste.	40 CFR Part 261
3002..........	Generators of hazardous waste.	40 CFR Part 262
3003..........	Transporters of hazardous waste.	40 CFR Part 263
3004..........	Standards for HWM facilities.	40 CFR Parts 264, 265, 266, and 267
3005..........	Permit requirements for HWM facilities.	40 CFR Parts 270 and 124
3006..........	Guidelines for State programs.	40 CFR Part 271
3010..........	Preliminary notification of HWM activity.	(public notice) 45 FR 12746 February 26, 1980

(3) *Technical regulations.* The RCRA permit program has separate additional Regulations that contain technical requirements. These separate regulations are used by permit issuing authorities to determine what requirements must be placed in permits if they are issued. These separate regulations are located in 40 CFR Parts 264, 266, and 267.

(b) *Overview of the RCRA Permit Program.* Not later than 90 days after the promulgation or revision of regulations in 40 CFR Part 261 (identifying and listing hazardous wastes) generators and transporters of hazardous waste, and owners or operators of hazardous waste treatment, storage, or disposal facilities may be required to file a notification of that activity under section 3010. Six months after the initial promulgation of the Part 261 regulations, treatment, storage, or disposal of hazardous waste by any person who has not applied for or received a RCRA permit is prohibited. A RCRA permit application consists of two parts, Part A (see § 270.13) and Part B (see § 270.14 and applicable sections in §§ 270.15 through 270.29). For "existing HWM facilities," the requirement to submit an application is satisfied by submitting only Part A of the permit application until the date the Director sets for submitting Part B of the application. (Part A consists of Forms 1 and 3 of the Consolidated Permit Application Forms.) Timely submission of both notification under section 3010 and Part A qualifies owners and operators of existing HWM facilities (who are required to have a permit) for interim status under section 3005(e) of RCRA. Facility owners and operators with interim status are treated as having been issued a permit until EPA or a State with interim authorization for Phase II or final authorization under Part 271 makes a final determination on the permit application. Facility owners and operators with interim status must comply with interim status standards set forth at 40 CFR Part 265 or with the analagous provisions of a State program which has received interim or final authorization under Part 271. Facility owners and operators with interim status are not relieved from complying with other State requirements. For existing HWM facilities, the Director shall set a date, giving at least six months notice, for submission of Part B of the application. There is no form for Part B of the application; rather, Part B must be submitted in narrative form and contain the information set forth in the applicable sections of §§ 270.14 through 270.29. Owners or operators of new HWM facilities must submit Parts A and B of the permit application at least 180 days before physical construction is expected to commence.

(c) *Scope of the RCRA permit requirement.* RCRA requires a permit for the "treatment," "storage," and "disposal" of any "hazardous waste" as identified or listed in 40 CFR Part 261. The terms "treatment," "storage," "disposal," and "hazardous waste" are defined in § 270.2. Owners and operators of hazardous waste management units must have permits during the active life (including the closure period) of the unit. Owners or operators of surface impoundments, landfills, land treatment units, and waste pile units that received wastes after July 26, 1982, or that certified closure (according to § 265.115) after January 26, 1983, must have post-closure permits, unless they demonstrate closure by removal as provided under § 270.1(c) (5) and (6). If a post-closure permit is required, the permit must address applicable Part 264 Groundwater Monitoring, Unsaturated Zone Monitoring, Corrective Action, and Post-closure Care Requirements of this chapter. The denial of a permit for the active life of a hazardous waste management facility or unit does not affect the requirement to obtain a post-closure permit under this section.

(1) *Specific inclusions.* Owners and operators of certain facilities require RCRA permits as well as permits under other programs for certain aspects of the facility operation. RCRA permits are required for:

(i) Injection wells that dispose of hazardous waste, and associated surface facilities that treat, store or dispose of hazardous waste, (See § 270.64). However, the owner and operator with a UIC permit in a State with an approved or promulgated UIC program, will be deemed to have a RCRA permit for the injection well itself if they comply with the requirements of § 270.60(b) (permit-by-rule for injection wells).

(ii) Treatment, storage, or disposal of hazardous waste at facilities requiring an NPDES permit. However, the owner and operator of a publicly owned treatment works receiving hazardous waste will be deemed to have a RCRA permit for that waste if they comply with the requirements of § 270.60(c) (permit-by-rule for POTWs).

(iii) Barges or vessels that dispose of hazardous waste by ocean disposal and onshore hazardous waste treatment or storage facilities associated with an ocean disposal operation. However, the owner and operator will be deemed to have a RCRA permit for ocean disposal from the barge or vessel itself if they comply with the requirements of § 270.60(a) (permit-by-rule for ocean disposal barges and vessels).

(2) *Specific exclusions.* The following persons are among those who are not required to obtain a RCRA permit:

(i) Generators who accumulate hazardous waste on-site for less than the time periods provided in 40 CFR 262.34.

(ii) Farmers who dispose of hazardous waste pesticides from their own use as provided in § 262.70 of this chapter;

(iii) Persons who own or operate facilities solely for the treatment, storage or disposal of hazardous waste excluded from regulations under this part by 40 CFR 261.4 or 261.5 (small generator exemption).

(iv) Owners or operators of totally enclosed treatment facilities as defined in 40 CFR 260.10.

(v) Owners and operators of elementary neutralization units or wastewater treatment units as defined in 40 CFR 260.10.

(vi) Transporters storing manifested shipments of hazardous waste in containers meeting the requirements of 40 CFR 262.30 at a transfer facility for a period of ten days or less.

(vii) Persons adding absorbent material to waste in a container (as defined in § 260.10 of this chapter) and persons adding waste to absorbent material in a container, provided that these actions occur at the time waste is first placed in the container; and §§ 264.17(b), 264.171, and 264.172 of this chapter are complied with.

(3) *Further exclusions.* (i) A person is not required to obtain an RCRA permit for treatment or containment activities taken during immediate response to any of the following situations:

(A) A discharge of a hazardous waste;

(B) An imminent and substantial threat of a discharge of hazardous waste;

(C) A discharge of a material which, when discharged, becomes a hazardous waste.

(ii) Any person who continues or initiates hazardous waste treatment or containment activities after the immediate response is over is subject to all applicable requirements of this part for those activities.

(4) *Permits for less than an entire facility.* EPA may issue or deny a permit for one or more units at a facility without simultaneously issuing or denying a permit to all of the units at the facility. The interim status of any unit for which a permit has not been issued or denied is not affected by the issuance or denial of a permit to any other unit at the facility.

(5) *Closure by removal.* Owners/operators of surface impoundments, land treatment units, and waste piles closing by removal or decontamination under Part 265 standards must obtain a post-closure permit unless they can demonstrate to the Regional Administrator that the closure met the standards for closure by removal or decontamination in § 264.228, § 264.280(e), or § 264.258, respectively. The demonstration may be made in the following ways:

(i) If the owner/operator has submitted a Part B application for a post-closure permit, the owner/operator may request a determination, based on information contained in the application, that section 264 closure by removal standards were met. If the Regional Administrator believes that § 264 standards were met, he/she will notify the public of this proposed decision, allow for public comment, and reach a final determination according to the procedures in paragraph (c)(6) of this section.

(ii) If the owner/operator has not submitted a Part B application for a post-closure permit, the owner/operator may petition the Regional Administrator for a determination that a post-closure permit is not required because the closure met the applicable Part 264 closure standards.

(A) The petition must include data demonstrating that closure by removal or decontamination standards were met, or it must demonstrate that the unit closed under State requirements that met or exceeded the applicable 264 closure-by-removal standard.

(B) The Regional Administrator shall approve or deny the petition according to the procedures outlined in paragraph (c)(6) of this section.

(6) *Procedures for closure equivalency determination.* (i) If a facility owner/operator seeks an equivalency demonstration under § 270.1(c)(5), the Regional Administrator will provide the public, through a newspaper notice, the opportunity to submit written comments on the information submitted by the owner/operator within 30 days from the date of the notice. The Regional Administrator will also

in response to a request or at his/her own discretion, hold a public hearing whenever such a hearing might clarify one or more issues concerning the equivalence of the Part 265 closure to a Part 264 closure. The Regional Administrator will give public notice of the hearing at least 30 days before it occurs. (Public notice of the hearing may be given at the same time as notice of the opportunity for the public to submit written comments, and the two notices may be combined.)

(ii) The Regional Administrator will determine whether the Part 265 closure met 264 closure by removal or decontamination requirements within 90 days of its receipt. If the Regional Administrator finds that the closure did not meet the applicable Part 264 standards, he/she will provide the owner/operator with a written statement of the reasons why the closure failed to meet Part 264 standards. The owner/operator may submit additional information in support of an equivalency demonstration within 30 days after receiving such written statement. The Regional Administrator will review any additional information submitted and make a final determination within 60 days.

(iii) If the Regional Administrator determines that the facility did not close in accordance with Part 264 closure by removal standards, the facility is subject to post-closure permitting requirements.

[48 FR 14228, Apr. 1, 1983, as amended at 48 FR 30113, June 30, 1983; 51 FR 10176, Mar. 24, 1986; 52 FR 45798, Dec. 1, 1987; 53 FR 27165, July 19, 1988; 54 FR 9607, Mar. 7, 1989]

§270.2 Definitions.

The following definitions apply to Parts 270, 271 and 124. Terms not defined in this section have the meaning given by RCRA.

Administrator means the Adminisrator of the United States Environnental Protection Agency, or an auhorized representative.

Application means the EPA standrd national forms for applying for a ermit, including any additions, revions or modifications to the forms; or orms approved by EPA for use in aproved States, including any approved modifications or revisions. Application also includes the information required by the Director under §§ 270.14 through 270.29 (contents of Part B of the RCRA application).

Approved program or approved State means a State which has been approved or authorized by EPA under Part 271.

Aquifer means a geological formation, group of formations, or part of a formation that is capable of yielding a significant amount of water to a well or spring.

Closure means the act of securing a Hazardous Waste Management facility pursuant to the requirements of 40 CFR Part 264.

Component means any constituent part of a unit or any group of constituent parts of a unit which are assembled to perform a specific function (e.g., a pump seal, pump, kiln liner, kiln thermocouple).

CWA means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act amendments of 1972) Pub. L. 92-500, as amended by Pub. L. 92-217 and Pub. L. 95-576; 33 U.S.C. 1251 *et seq.*

Director means the Regional Administrator or the State Director, as the context requires, or an authorized representative. When there is no approved State program, and there is an EPA administered program, Director means the Regional Administrator. When there is an approved State program, Director normally means the State Director. In some circumstances, however, EPA retains the authority to take certain actions even when there is an approved State program. In such cases, the term Director means the Regional Administrator and not the State Director.

Disposal means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any hazardous waste into or on any land or water so that such hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground water.

Disposal facility means a facility or part of a facility at which hazardous waste is intentionally placed into or on the land or water, and at which hazardous waste will remain after closure.

Draft permit means a document prepared under § 124.6 indicating the Director's tentative decision to issue or deny, modify, revoke and reissue, terminate, or reissue a permit. A notice of intent to terminate a permit, and a notice of intent to deny a permit, as discussed in § 124.5, are types of draft permits. A denial of a request for modification, revocation and reissuance, or termination, as discussed in § 124.5 is not a "draft permit." A proposed permit is not a draft permit.

Elementary neutralization unit means a device which:

(a) Is used for neutralizing wastes only because they exhibit the corrosivity characteristic defined in § 261.22 of this chapter, or are listed in Subpart D of Part 261 of this chapter only for this reason; and

(b) Meets the definition of tank, tank system, container, transport vehicle, or vessel in § 260.10 of this chapter.

Emergency permit means a RCRA permit issued in accordance with § 270.61.

Environmental Protection Agency (*EPA*) means the United States Environmental Protection Agency.

EPA means the United States Environmental Protection Agency.

Existing hazardous waste management (*HWM*) *facility or existing facility* means a facility which was in operation or for which construction commenced on or before November 19, 1980. A facility has commenced construction if:

(a) The owner or operator has obtained the Federal, State and local approvals or permits necessary to begin physical construction; and either

(b)(1) A continuous on-site, physical construction program has begun; or

(2) The owner or operator has entered into contractual obligations which cannot be cancelled or modified without substantial loss—for physical construction of the facility to be completed within a reasonable time.

Facility mailing list means the mailing list for a facility maintained by EPA in accordance with 40 CFR 124.10(c)(viii).

Facility or activity means any HW facility or any other facility or activit (including land or appurtenance thereto) that is subject to regulatio under the RCRA program.

Federal, State and local approvals o permits necessary to begin physic construction means permits and ap provals required under Federal, Stat or local hazardous waste control stat utes, regulations or ordinances.

Final authorization means approva by EPA of a State program which ha met the requirements of sectio 3006(b) of RCRA and the applicabl requirements of Part 271, Subpart A.

Functionally equivalent componen means a component which perform the same function or measuremen and which meets or exceeds the per formance specifications of anothe component.

Generator means any person, by site location, whose act, or process pro duces "hazardous waste" identified o listed in 40 CFR Part 261.

Ground water means water below the land surface in a zone of saturation.

Hazardous waste means a hazardous waste as defined in 40 CFR 261.3.

Hazardous Waste Management facility (HWM facility) means all contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units (for example, one or more landfills, surface impoundments, or combinations of them).

HWM facility means Hazardous Waste Management facility.

Injection well means a well into which fluids are being injected.

In operation means a facility which is treating, storing, or disposing of hazardous waste.

Interim authorization means approval by EPA of a State hazardous waste program which has met the requirements of section 3006(c) of RCRA and applicable requirements of Part 271, Subpart B.

Major facility means any facility or activity classified as such by the Regional Administrator, or, in the case of approved State programs, the Regional Administrator in conjunction with the State Director.

Manifest means the shipping document originated and signed by the generator which contains the information required by Subpart B of 40 CFR Part 262.

National Pollutant Discharge Elimination System means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of the CWA. The term includes an approved program.

NPDES means National Pollutant Discharge Elimination System.

New HWM facility means a Hazardous Waste Management facility which began operation or for which construction commenced after November 19, 1980.

Off-site means any site which is not on-site.

On-site means on the same or geographically continguous property which may be divided by public or private right(s)-of-way, provided the entrance and exit between the properties is at a cross-roads intersection, and access is by crossing as opposed to going along, the right(s)-of-way. Noncontiguous properties owned by the same person but connected by a right-of-way which the person controls and to which the public does not have access, is also considered on-site property.

Owner or operator means the owner or operator of any facility or activity subject to regulation under RCRA.

Permit means an authorization, license, or equivalent control document issued by EPA or an approved State to implement the requirements of this part and Parts 271 and 124. Permit includes permit by rule (§ 270.60), and emergency permit (§ 270.61). Permit does not include RCRA interim status (Subpart G of this part), or any permit which has not yet been the subject of final agency action, such as a draft permit or a proposed permit.

Permit-by-rule means a provision of these regulations stating that a facility or activity is deemed to have a RCRA permit if it meets the requirements of the provision.

Person means an individual, association, partnership, corporation, municipality, State or Federal agency, or an agent or employee thereof.

Phase I means that phase of the Federal hazardous waste management program commencing on the effective date of the last of the following to be initially promulgated: 40 CFR Parts 260, 261, 262, 263, 265, 270 and 271. Promulgation of Phase I refers to promulgation of the regulations necessary for Phase I to begin.

Phase II means that phase of Federal hazardous waste management program commencing on the effective date of the first subpart of 40 CFR Part 264, Subparts F through R to be initially promulgated. Promulgation of Phase II refers to promulgation of the regulations necessary for Phase II to begin.

Physical construction means excavation, movement of earth, erection of forms or structures, or similar activity to prepare an HWM facility to accept hazardous waste.

POTW means publicly owned treatment works.

Publicly owned treatment works (POTW) means any device or system unsed in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature which is owned by a State or municipality. This definition includes sewers, pipes, or other conveyances only if they convey wastewater to a POTW providing treatment.

RCRA means the Solid Waste Disposal Act as amended by the Resource Conservation and Recovery Act of 1976 (Pub. L. 94-580, as amended by Pub. L. 95-609 and Pub. L. 96-482, 42 U.S.C. 6901 *et seq.*)

Regional Administrator means the Regional Administrator of the appropriate Regional Office of the Environmental Protection Agency or the authorized representative of the Regional Administrator.

Schedule of compliance means a schedule of remedial measures included in a permit, including an enforceable sequence of interim requirements (for example, actions, operations, or milestone events) leading to compliance with the Act and regulations.

SDWA means the Safe Drinking Water Act (Pub. L. 95-523, as amended by Pub. L. 95-1900; 42 U.S.C. 3001 *et seq.*).

Site means the land or water area where any facility or activity is physically located or conducted, including adjacent land used in connection with the facility or activity.

State means any of the 50 States, the District of Columbia, Guam, the Commonwealth of Puerto Rico, the Virgin Islands, American Samoa, and the Commonwealth of the Northern Mariana Islands.

State Director means the chief administrative officer of any State agency operating an approved program, or the delegated representative of the State Director. If responsibility is divided among two or more State agencies, State Director means the chief administrative officer of the State agency authorized to perform the particular procedure or function to which reference is made.

State/EPA Agreement means an agreement between the Regional Administrator and the State which coordinates EPA and State activities, responsibilities and programs.

Storage means the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed, or stored elsewhere.

Transfer facility means any transportation-related facility including loading docks, parking areas, storage areas and other similar areas where shipments of hazardous waste are held during the normal course of transportation.

Transporter means a person engaged in the off-site transportation of hazardous waste by air, rail, highway or water.

Treatment means any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such wastes, or so as to recover energy or material resources from the waste, or so as to render such waste non-hazardous, or less hazardous; safer to transport, store, or dispose of; or amenable for recovery, amenable for storage duced in volume.

UIC means the Underground tion Control Program under Pa the Safe Drinking Water Act, ing an approved program.

Underground injection means injection.

Underground source of dr water (USDW) means an aquifer portion:

(a)(1) Which supplies any water system; or

(2) Which contains a suf quantity of ground water to su public water system; and

(i) Currently supplies drinking for human consumption; or

(ii) Contains fewer than 10,000 total dissolved solids; and

(b) Which is not an exempted fer.

USDW means underground sou drinking water.

Wastewater treatment unit me device which:

(a) Is part of a wastewater trea facility which is subject to regu under either section 402 or 307 the Clean Water Act; and

(b) Receives and treats or stor influent wastewater which is a ha ous waste as defined in § 261.3 of chapter, or generates and accumu a wastewater treatment sludge w is a hazardous waste as define § 261.3 of this chapter, or trea stores a wastewater treatment sl which is a hazardous waste as de in § 261.3 of this chapter; and

(c) Meets the definition of tan tank system in § 260.10 of this cha

[48 FR 14228, Apr. 1, 1983, as amended FR 30113, June 30, 1983; 53 FR 34087, 2, 1988; 53 FR 37935, Sept. 28, 1988]

§ 270.3 Considerations under Federal

The following is a list of Fed laws that may apply to the issuanc permits under these rules. When of these laws is applicable, its pr dures must be followed. When the plicable law requires consideratior adoption of particular permit co tions or requires the denial o permit, those requirements also m be followed.

(a) *The Wild and Scenic Rivers Act.* 16 U.S.C. 1273 *et seq.* Section 7 of the Act prohibits the Regional Administrator from assisting by license or otherwise the construction of any water resources project that would have a direct, adverse effect on the values for which a national wild and scenic river was established.

(b) *The National Historic Preservation Act of 1966.* 16 U.S.C. 470 *et seq.* Section 106 of the Act and implementing regulations (36 CFR Part 800) require the Regional Administrator, before issuing a license, to adopt measures when feasible to mitigate potential adverse effects of the licensed activity and properties listed or eligible for listing in the National Register of Historic Places. The Act's requirements are to be implemented in cooperation with State Historic Preservation Officers and upon notice to, and when appropriate, in consultation with the Advisory Council on Historic Preservation.

(c) *The Endangered Species Act.* 16 U.S.C. 1531 *et seq.* Section 7 of the Act and implementing regulations (50 CFR Part 402) require the Regional Administrator to ensure, in consultation with the Secretary of the Interior or Commerce, that any action authorized by EPA is not likely to jeopardize the continued existence of any endangered or threatened species or adversely affect its critical habitat.

(d) *The Coastal Zone Management Act.* 16 U.S.C. 1451 *et seq.* Section 307(c) of the Act and implementing regulations (15 CFR Part 930) prohibit EPA from issuing a permit for an activity affecting land or water use in the coastal zone until the applicant certifies that the proposed activity complies with the State Coastal Zone Management program, and the State or its designated agency concurs with the certification (or the Secretary of Commerce overrides the State's nonconcurrence).

(e) *The Fish and Wildlife Coordination Act.* 16 U.S.C. 661 *et seq.* requires that the Regional Administrator, before issuing a permit proposing or authorizing the impoundment (with certain exemptions), diversion, or other control or modification of any body of water, consult with the appropriate State agency exercising jurisdiction over wildlife resources to conserve those resources.

(f) *Executive orders.* [Reserved]

(Clean Water Act (33 U.S.C. 1251 et seq.), Safe Drinking Water Act (42 U.S.C. 300f et seq.), Clean Air Act (42 U.S.C. 7401 et seq.), Resource Conservation and Recovery Act (42 U.S.C. 6901 et seq.))

[48 FR 14228, Apr 1, 1983, as amended at 48 FR 39622, Sept. 1, 1983]

§ 270.4 Effect of a permit.

(a) Compliance with an RCRA permit during its term constitutes compliance for purpose of enforcement, with Subtitle C of RCRA except for those requirements not included in the permit which become effective by statute, or which are promulgated under Part 268 of this chapter restricting the placement of hazardous wastes in or on the land.

(b) The issuance of a permit does not convey any property rights of any sort, or any exclusive privilege.

(c) The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of State or local law or regulations.

[48 FR 14228, Apr. 1, 1983, as amended at 52 FR 45799, Dec. 1, 1987]

EDITORIAL NOTE: At 53 FR 37935, September 28, 1988, a rule document incorrectly amended § 270.1 by revising the last sentence of paragraph (a) to read as follows:

§ 270.4 Effect of a permit.

(a) * * * However, a permit may be modified, revoked and reissued, or terminated during its term for cause as set forth in §§ 270.41 and 270.43, or the permit may be modified upon the request of the permittee as set forth in § 270.42.

* * * * *

The existing text in § 270.4(a) included only one sentence, therefore, this amendment could not be incorporated. At a later date, EPA will publish a document in the FEDERAL REGISTER to correctly amend this paragraph.

§ 270.5 Noncompliance and program reporting by the Director.

The Director shall prepare quarterly and annual reports as detailed below. When the State is the permit-issuing authority, the State Director shall submit any reports required under this section to the Regional Administrator. When EPA is the permit-issuing authority, the Regional Administrator shall submit any report required under this section to EPA Headquarters. For purposes of this section only, RCRA permittees shall include RCRA interim status facilities, when appropriate.

(a) *Quarterly reports.* The Director shall submit quarterly narrative reports for major facilities as follows:

(1) *Format.* The report shall use the following format:

(i) Information on noncompliance for each facility;

(ii) Alphabetize by permittee name. When two or more permittees have the same name, the lowest permit number shall be entered first;

(iii) For each entry on the list, include the following information in the following order:

(A) Name, location, and permit number of the noncomplying permittee.

(B) A brief description and date of each instance of noncompliance for that permittee. Instances of noncompliance may include one or more of the kinds set forth in paragraph (a)(2) of this section. When a permittee has noncompliance of more than one kind, combine the information into a single entry for each such permittee.

(C) The date(s) and a brief description of the action(s) taken by the Director to ensure compliance.

(D) Status of the instance(s) of noncompliance with the date of the review of the status or the date of resolution.

(E) Any details which tend to explain or mitigate the instance(s) of noncompliance.

(2) *Instances of noncompliance to be reported.* Any instances of noncompliance within the following categories shall be reported in successive reports until the noncompliance is reported as resolved. Once noncompliance is reported as resolved it need not appear in subsequent reports.

(i) *Failure to complete construction elements.* When the permittee has failed to complete, by the date specified in the permit, an element of a compliance schedule involving either planning for construction (for example, award of a contract, preliminary plans), or a construction step (for example, begin construction, attain operation level); and the permittee has not returned to compliance by accomplishing the required element of the schedule within 30 days from the date a compliance schedule report is due under the permit.

(ii) *Modifications to schedules of compliance.* When a schedule of compliance in the permit has been modified under § 270.41 or § 270.42 because of the permittee's noncompliance.

(iii) *Failure to complete or provide compliance schedule or monitoring reports.* When the permittee has failed to complete or provide a report required in a permit compliance schedule (for example, progress report or notice of noncompliance or compliance) or a monitoring report; and the permittee has not submitted the complete report within 30 days from the date it is due under the permit for compliance schedules, or from the date specified in the permit for monitoring reports.

(iv) *Deficient reports.* When the required reports provided by the permittee are so deficient as to cause misunderstanding by the Director and thus impede the review of the status of compliance.

(v) *Noncompliance with other permit requirements.* Noncompliance shall be reported in the following circumstances:

(A) Whenever the permittee has violated a permit requirement (other than reported under paragraph (a)(2)(i) or (ii) of this section), and has not returned to compliance within 45 days from the date reporting of noncompliance was due under the permit; or

(B) When the Director determines that a pattern of noncompliance exists for a major facility permittee over the most recent four consecutive reporting periods. This pattern includes any violation of the same requirement in two consecutive reporting periods, and any violation of one or more requirements in each of four consecutive reporting periods; or

(C) When the Director determines significant permit non-compliance or

ther significant event has occurred
ch as a fire or explosion or migra-
on of fluids into a USDW.
(vi) *All other.* Statistical information
all be reported quarterly on all
ther instances of noncompliance by
ajor facilities with permit require-
ents not otherwise reported under
aragraph (a) of this section.
(b) *Annual reports*—(1) *Annual non-*
mpliance report. Statistical reports
all be submitted by the Director on
nmajor RCRA permittees indicating
e total number reviewed, the
mber of noncomplying nonmajor
rmittees, the number of enforce-
ent actions, and number of permit
odifications extending compliance
adlines. The statistical information
all be organized to follow the types
noncompliance listed in paragraph
of this section.
2) In addition to the annual non-
mpliance report, the Director shall
epare a "program report" which
ntains information (in a manner and
m prescribed by the Administrator)
generators and transporters and
e permit status of regulated facili-
s. The Director shall also include,
a biennial basis, summary informa-
n on the quantities and types of
zardous wastes generated, trans-
ted, treated, stored and disposed
ring the preceding odd-numbered
r. This summary information shall
reported in a manner and form pre-
ibed by the Administrator and shall
reported according to EPA charac-
istics and lists of hazardous wastes
0 CFR Part 261.
) *Schedule.* (1) For all quarterly re-
ts. On the last working day of May,
gust, November, and February, the
te Director shall submit to the Re-
nal Administrator information con-
ning noncompliance with RCRA
mit requirements by major facili-
in the State in accordance with
following schedule. The Regional
ninistrator shall prepare and
mit information for EPA-issued
mits to EPA Headquarters in ac-
dance with the same schedule.

QUARTERS COVERED BY REPORTS ON NONCOMPLIANCE BY MAJOR DISCHARGERS

[Date for completion of reports]

January, February, and March	[1] May 31
April, May, and June	[1] August 31
July, August, and September	[1] November 30
October, November, and December	[1] February 28

[1] Reports must be made available to the public for inspection and copying on this date.

[48 FR 14228, Apr. 1, 1983, as amended at 48 FR 30113, June 30, 1983]

§ 270.6 References.

(a) When used in Part 270 of this chapter, the following publications are incorporated by reference:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", EPA Publication SW-846 [Second Edition, 1982 as amended by Update I (April, 1984), and Update II (April, 1985)]. The second edition of SW-846 and Updates I, II and III are available from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161, (703) 487-4600, as document no. PB 87-120-291. The cost is $48.95 for paper and $13.50 for microfiche.

(b) The references listed in paragraph (a) of this section are also available for inspection at the Office of the Federal Register, 1100 L Street, NW., Washington, DC 20408. These incorporations by reference were approved by the Director of the Federal Register. These materials are incorporated as they exist on the date of approval and a notice of any change in these materials will be published in the FEDERAL REGISTER.

[48 FR 14228, Apr. 1, 1983, as amended at 48 FR 30113, June 30, 1983; 52 FR 8073, Mar. 16, 1987]

Subpart B—Permit Application

§ 270.10 General application requirements.

(a) *Permit application.* Any person who is required to have a permit (including new applicants and permittees with expiring permits) shall complete, sign, and submit an application to the Director as described in this section and §§ 270.70 through 270.73. Persons currently authorized with interim status shall apply for permits when required by the Director. Persons covered by RCRA permits by rule (§ 270.60), need not apply. Procedures for applications, issuance and administration of emergency permits are found exclusively in § 270.61. Procedures for application, issuance and administration of research, development, and demonstration permits are found exclusively in § 270.65.

(b) *Who applies?* When a facility or activity is owned by one person but is operated by another person, it is the operator's duty to obtain a permit, except that the owner must also sign the permit application.

(c) *Completeness.* The Director shall not issue a permit before receiving a complete application for a permit except for permits by rule, or emergency permits. An application for a permit is complete when the Director receives an application form and any supplemental information which are completed to his satisfaction. An application for a permit is complete notwithstanding the failure of the owner or operator to submit the exposure information described in paragraph (j) of this section. The Director may deny a permit for the active life of a hazardous waste management facility or unit before receiving a complete application for a permit.

(d) *Information requirements.* All applicants for RCRA permits shall provide information set forth in § 270.13 and applicable sections in §§ 270.14 through 270.29 to the Director, using the application form provided by the Director.

(e) *Existing HWM facilities and interim status qualifications.* (1) Owners and operators of existing hazardous waste management facilities or of hazardous waste management facilities in existence on the effective date of statutory or regulatory amendments under the act that render the facility subject to the requirement to have a RCRA permit must submit Part A of their permit application no later than:

(i) Six months after the date of publication of regulations which first require them to comply with the standards set forth in 40 CFR Part 265 or 266, or

(ii) Thirty days after the date they first become subject to the standards set forth in 40 CFR Part 265 or 266, whichever first occurs.

(iii) For generators generating greater than 100 kilograms but less than 1000 kilograms of hazardous waste in a calendar month and treats, stores, or disposes of these wastes on-site, by March 24, 1987.

NOTE: For facilities which must comply with Part 265 because they handle a waste listed in EPA's May 19, 1980, Part 261 regulations (45 FR 33006 *et seq.*), the deadline for submitting an application is November 19, 1980. Where other existing facilities must begin in complying with Part 265 or 266 at a later date because of revisions to Part 260, 261, 265, or 266, the Administrator will specify in the preamble to those revisions when those facilities must submit a permit application.

(2) The Administrator may by publication in the FEDERAL REGISTER extend the date by which owners and operators of specified classes of existing hazardous waste management facilities must submit Part A of their permit application if he finds that (i) there has been substantial confusion as to whether the owners and operators of such facilities were required to file a permit application and (ii) such confusion is attributed to ambiguities in EPA's Parts 260, 261, 265, or 266 regulations.

(3) The Administrator may by compliance order issued under section 3008 of RCRA extend the date by which the owner and operator of an existing hazardous waste management facility must submit Part A of their permit application.

(4) At any time after promulgation of Phase II the owner and operator of an existing HWM facility may be required to submit Part B of their permit application. The State Director may require submission of Part B (or equivalent completion of the State RCRA application process) if the State in which the facility is located has received interim authorization for Phase II or final authorization; if not, the Regional Administrator may require submission of Part B. Any owner or operator shall be allowed at least six months from the date of request to submit Part B of the application. Any

er or operator of an existing HWM
lity may voluntarily submit Part B
the application at any time. Not-
nstanding the above, any owner or
rator of an existing HWM facility
st submit a Part B permit applica-
n in accordance with the dates spec-
d in § 270.73. Any owner or opera-
of a land disposal facility in exist-
e on the effective date of statutory
regulatory amendments under this
that render the facility subject to
requirement to have a RCRA
mit must submit a Part B applica-
n in accordance with the dates spec-
d in § 270.73.

5) Failure to furnish a requested
rt B application on time, or to fur-
h in full the information required
the Part B application, is grounds
termination of interim status
der Part 124.

f) *New HWM facilities.* (1) Except
provided in paragraph (f)(3) of this
tion, no person shall begin physical
nstruction of a new HWM facility
thout having submitted Parts A and
of the permit application and
ving received a finally effective
CRA permit.

(2) An application for a permit for a
w HWM facility (including both
rts A and B) may be filed any time
ter promulgation of those standards
Part 264, Subpart I *et seq.* applica-
e to such facility. The application
all be filed with the Regional Ad-
inistrator if at the time of applica-
on the State in which the new HWM
cility is proposed to be located has
ot received Phase II interim authori-
tion for permitting such facility or
nal authorization; otherwise it shall
e filed with the State Director.
xcept as provided in paragraph (f)(3)
f this section, all applications must
e submitted at least 180 days before
hysical construction is expected to
ommence.

(3) Notwithstanding paragraph (f)(1)
f this section, a person may construct
facility for the incineration of poly-
hlorinated biphenyls pursuant to an
pproval issued by the Administrator
nder section (6)(e) of the Toxic Sub-
tances Control Act and any person
wning or operating such a facility
may, at any time after construction or
peration of such facility has begun, file an application for a RCRA permit to incinerate hazardous waste authorizing such facility to incinerate waste identified or listed under Subtitle C of RCRA.

(g) *Updating permit applications.* (1) If any owner or operator of a HWM facility has filed Part A of a permit application and has not yet filed Part B, the owner or operator shall file an amended Part A application:

(i) With the Regional Administrator, if the facility is located in a State which has not obtained interim authorization for phase II or final authorization, within six months after the promulgation of revised regulations under Part 261 listing or identifying additional hazardous wastes, if the facility is treating, storing, or disposing of any of those newly listed or identified wastes.

(ii) With the State Director, if the facility is located in a State which has obtained Phase II interim authorization or final authorization, no later than the effective date of regulatory provisions listing or designating wastes as hazardous in that State in addition to those listed or designated under the previously approved State program, if the facility is treating, storing, or disposing of any of those newly listed or designated wastes; or

(iii) As necessary to comply with provisions of § 270.72 for changes during interim status or with the analogous provisions of a State program approved for final authorization or interim authorization for Phase II. Revised Part A applications necessary to comply with the provisions of § 270.72 shall be filed with the Regional Administrator if the State in which the facility in question is located does not have Phase II interim authorization or final authorization; otherwise it shall be filed with the State Director (if the State has an analogous provision).

(2) The owner or operator of a facility who fails to comply with the updating requirements of paragraph (g)(1) of this section does not receive interim status as to the wastes not covered by duly filed Part A applications.

(h) *Reapplications.* Any HWM facility with an effective permit shall submit a new application at least 180 days before the expiration date of the effective permit, unless permission for a later date has been granted by the Director. (The Director shall not grant permission for applications to be submitted later than the expiration date of the existing permit.)

(i) *Recordkeeping.* Applicants shall keep records of all data used to complete permit applications and any supplemental information submitted under §§ 270.10(d), 270.13, 270.14 through 270.21 for a period of at least 3 years from the date the application is signed.

(j) *Exposure information.* (1) After August 8, 1985, any Part B permit application submitted by an owner or operator of a facility that stores, treats, or dispose of hazardous waste in a surface impoundment or a landfill must be accompanied by information, reasonably ascertainable by the owner or operator, on the potential for the public to be exposed to hazardous wastes or hazardous constituents through releases related to the unit. At a minimum, such information must address:

(i) Reasonably foreseeable potential releases from both normal operations and accidents at the unit, including releases associated with transportation to or from the unit;

(ii) The potential pathways of human exposure to hazardous wastes or constituents resulting from the releases described under paragraph (j)(1)(i) of this section; and

(iii) The potential magnitude and nature of the human exposure resulting from such releases.

(2) By August 8, 1985, owners and operators of a landfill or a surface impoundment who have already submitted a Part B application must submit the exposure information required in paragraph (j)(1) of this section.

(k) The Director may require a permittee or an applicant to submit information in order to establish permit conditions under §§ 270.32(b)(2) and 270.50(d) of this chapter.

(Approved by the Office of Management and Budget under control numbers 2050-0009, 2050-0002, and 2050-0007)

[48 FR 14228, Apr. 1, 1983; 48 FR 30114, June 30, 1983, as amended at 50 FR 28751, July 15, 1985; 51 FR 10176, Mar. 24, 1986; 52 FR 45799, Dec. 1, 1987; 54 FR 9607, Mar. 7, 1989]

§ 270.11 Signatories to permit applications and reports.

(a) *Applications.* All permit applications shall be signed as follows:

(1) *For a corporation:* By a responsible corporate officer. For the purpose of this section, a responsible corporate officer means (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decisionmaking functions for the corporation, or (ii) the manager of one or more manufacturing, production or operating facilities employing more than 250 persons or having gross annual sales or expenditures exceeding $25 million (in second-quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

NOTE: EPA does not require specific assignments or delegations of authority to responsible corporate officers identified in § 270.11(a)(1)(i). The Agency will presume that these responsible corporate officers have the requisite authority to sign permit applications unless the corporation has notified the Director to the contrary. Corporate procedures governing authority to sign permit applications may provide for assignment or delegation to applicable corporate positions under § 270.11(a)(1)(ii) rather than to specific individuals.

(2) *For a partnership or sole proprietorship;* by a general partner or the proprietor, respectively; or

(3) *For a municipality, State, Federal, or other public agency:* by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes: (i) The chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

(b) *Reports.* All reports required by permits and other information requested by the Director shall be signed by a person described in paragraph (a) of this section, or by a duly

orized representative of that
on. A person is a duly authorized
esentative only if:
The authorization is made in
ng by a person described in para-
h (a) of this section;
The authorization specifies
er an individual or a position
ng responsibility for overall oper-
n of the regulated facility or activ-
uch as the position of plant man-
operator of a well or a well field,
rintendent, or position of equiva-
responsibility. (A duly authorized
esentative may thus be either a
ed individual or any individual oc-
ing a named position); and
The written authorization is sub-
ed to the Director.
Changes to authorization. If an
orization under paragraph (b) of
section is no longer accurate be-
e a different individual or position
responsibility for the overall oper-
n of the facility, a new authoriza-
satisfying the requirements of
graph (b) of this section must be
nitted to the Director prior to or
ther with any reports, informa-
or applications to be signed by an
orized representative.
Certification. Any person signing
cument under paragraph (a) or (b)
his section shall make the follow-
certification:

ertify under penalty of law that this
ment and all attachments were pre-
d under my direction or supervision in
rdance with a system designed to assure
qualified personnel properly gather
evaluate the information submitted.
d on my inquiry of the person or per-
who manage the system, or those per-
directly responsible for gathering the
rmation, the information submitted is,
e the best of my knowledge and belief,
accurate, and complete. I am aware
there are significant penalties for sub-
ing false information, including the pos-
ty of fine and imprisonment for know-
violations.

an Water Act (33 U.S.C. 1251 et seq.),
Drinking Water Act (42 U.S.C. 300f et
, Clean Air Act (42 U.S.C. 7401 et seq.),
urce Conservation and Recovery Act
J.S.C. 6901 et seq.))

FR 14228, Apr. 1, 1983, as amended at 48
39622, Sept. 1, 1983]

§ 270.12 Confidentiality of information.

(a) In accordance with 40 CFR Part 2, any information submitted to EPA pursuant to these regulations may be claimed as confidential by the submitter. Any such claim must be asserted at the time of submission in the manner prescribed on the application form or instructions or, in the case of other submissions, by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice. If a claim is asserted, the information will be treated in accordance with the procedures in 40 CFR Part 2 (Public Information).

(b) Claims of confidentiality for the name and address of any permit applicant or permittee will be denied.

§ 270.13 Contents of Part A of the permit application.

Part A of the RCRA application shall include the following information:

(a) The activities conducted by the applicant which require it to obtain a permit under RCRA.

(b) Name, mailing address, and location, including latitude and longitude of the facility for which the application is submitted.

(c) Up to four SIC codes which best reflect the principal products or services provided by the facility.

(d) The operator's name, address, telephone number, ownership status, and status as Federal, State, private, public, or other entity.

(e) The name, address, and phone number of the owner of the facility.

(f) Whether the facility is located on Indian lands.

(g) An indication of whether the facility is new or existing and whether it is a first or revised application.

(h) For existing facilities, (1) a scale drawing of the facility showing the location of all past, present, and future treatment, storage, and disposal areas; and (2) photographs of the facility clearly delineating all existing structures; existing treatment, storage, and disposal areas; and sites of future treatment, storage, and disposal areas.

(i) A description of the processes to be used for treating, storing, and disposing of hazardous waste, and the design capacity of these items.

(j) A specification of the hazardous wastes listed or designated under 40 CFR Part 261 to be treated, stored, or disposed of at the facility, an estimate of the quantity of such wastes to be treated, stored, or disposed annually, and a general description of the processes to be used for such wastes.

(k) A listing of all permits or construction approvals received or applied for under any of the following programs:

(1) Hazardous Waste Management program under RCRA.

(2) UIC program under the SWDA.

(3) NPDES program under the CWA.

(4) Prevention of Significant Deterioration (PSD) program under the Clean Air Act.

(5) Nonattainment program under the Clean Air Act.

(6) National Emission Standards for Hazardous Pollutants (NESHAPS) preconstruction approval under the Clean Air Act.

(7) Ocean dumping permits under the Marine Protection Research and Sancturaies Act.

(8) Dredge or fill permits under section 404 of the CWA.

(9) Other relevant environmental permits, including State permits.

(l) A topographic map (or other map if a topographic map is unavailable) extending one mile beyond the property boundaries of the source, depicting the facility and each of its intake and discharge structures; each of its hazardous waste treatment, storage, or disposal facilities; each well where fluids from the facility are injected underground; and those wells, springs, other surface water bodies, and drinking water wells listed in public records or otherwise known to the applicant within ¼ mile of the facility property boundary.

(m) A brief description of the nature of the business.

§ 270.14 Contents of Part B: General requirements.

(a) Part B of the permit application consists of the general information requirements of this section, and the specific information requirements in §§ 270.14 through 270.29 applicable to the facility. The Part B information requirements presented in §§ 270.14 through 270.29 reflect the standards promulgated in 40 CFR Part 264. These information requirements are necessary in order for EPA to determine compliance with the Part 264 standards. If owners and operators of HWM facilities can demonstrate that the information prescribed in Part B can not be provided to the extent required, the Director may make allowance for submission of such information on a case-by-case basis. Information required in Part B shall be submitted to the Director and signed in accordance with requirements in § 270.11. Certain technical data, such as design drawings and specifications, and engineering studies shall be certified by a registered professional engineer.

(b) General information requirements. The following information is required for all HWM facilities, except as § 264.1 provides otherwise:

(1) A general description of the facility.

(2) Chemical and physical analyses of the hazardous waste to be handled at the facility. At a minimum, these analyses shall contain all the information which must be known to treat, store, or dispose of the wastes properly in accordance with Part 264.

(3) A copy of the waste analysis plan required by § 264.13(b) and, if applicable § 264.13(c).

(4) A description of the security procedures and equipment required by § 264.14, or a justification demonstrating the reasons for requesting a waiver of this requirement.

(5) A copy of the general inspection schedule required by § 264.15(b). Include, where applicable, as part of the inspection schedule, specific requirements in §§ 264.174, 264.193(i), 264.195, 264.226, 264.254, 264.273, 264.303, 264.602, 264.1033, 264.1052, 264.1053, and 264.1058.

(6) A justification of any request for a waiver(s) of the preparedness and prevention requirements of Part 264 Subpart C.

(7) A copy of the contingency plan required by Part 264, Subpart D. Note: Include, where applicable, as part of the contingency plan, specific requirements in §§ 264.227, 264.255, and 264.200.

(8) A description of procedures, structures, or equipment used at the facility to:

(i) Prevent hazards in unloading operations (for example, ramps, special forklifts);

(ii) Prevent runoff from hazardous waste handling areas to other areas of the facility or environment, or to prevent flooding (for example, berms, dikes, trenches);

(iii) Prevent contamination of water supplies;

(iv) Mitigate effects of equipment failure and power outages;

(v) Prevent undue exposure of personnel to hazardous waste (for example, protective clothing); and

(vi) Prevent releases to atmosphere.

(9) A description of precautions to prevent accidental ignition or reaction of ignitable, reactive, or incompatible wastes as required to demonstrate compliance with § 264.17 including documentation demonstrating compliance with § 264.17(c).

(10) Traffic pattern, estimated volume (number, types of vehicles) and control (for example, show turns across traffic lanes, and stacking lanes (if appropriate); describe access road surfacing and load bearing capacity; show traffic control signals).

(11) Facility location information;

(i) In order to determine the applicability of the seismic standard [§ 264.18(a)] the owner or operator of a new facility must identify the political jurisdiction (e.g., county, township, or election district) in which the facility is proposed to be located.

[*Comment*: If the county or election district is not listed in Appendix VI of Part 264, no further information is required to demonstrate compliance with § 264.18(a).]

(ii) If the facility is proposed to be located in an area listed in Appendix VI of Part 264, the owner or operator shall demonstrate compliance with the seismic standard. This demonstration may be made using either published geologic data or data obtained from field investigations carried out by the applicant. The information provided must be of such quality to be acceptable to geologists experienced in identifying and evaluating seismic activity. The information submitted must show that either:

(A) No faults which have had displacement in Holocene time are present, or no lineations which suggest the presence of a fault (which have displacement in Holocene time) within 3,000 feet of a facility are present, based on data from:

(*1*) Published geologic studies,

(*2*) Aerial reconnaissance of the area within a five-mile radius from the facility.

(*3*) An analysis of aerial photographs covering a 3,000 foot radius of the facility, and

(*4*) If needed to clarify the above data, a reconnaissance based on walking portions of the area within 3,000 feet of the facility, or

(B) If faults (to include lineations) which have had displacement in Holocene time are present within 3,000 feet of a facility, no faults pass with 200 feet of the portions of the facility where treatment, storage, or disposal of hazardous waste will be conducted, based on data from a comprehensive geologic analysis of the site. Unless a site analysis is otherwise conclusive concerning the absence of faults within 200 feet of such portions of the facility data shall be obtained from a subsurface exploration (trenching) of the area within a distance no less than 200 feet from portions of the facility where treatment, storage, or disposal of hazardous waste will be conducted. Such trenching shall be performed in a direction that is perpendicular to known faults (which have had displacement in Holocene time) passing within 3,000 feet of the portions of the facility where treatment, storage, or disposal of hazardous waste will be conducted. Such investigation shall document with supporting maps and other analyses, the location of faults found.

[*Comment*: The Guidance Manual for the Location Standards provides greater detail on the content of each type of seismic investigation and the appropriate conditions under which each approach or a combination of approaches would be used.]

(iii) Owners and operators of all facilities shall provide an identification of whether the facility is located within a 100-year floodplain. This identification must indicate the source of data for such determination and include a copy of the relevant Federal Insurance Administration (FIA) flood map, if used, or the calculations and maps used where an FIA map is not available. Information shall also be provided identifying the 100-year flood level and any other special flooding factors (e.g., wave action) which must be considered in designing, constructing, operating, or maintaining the facility to withstand washout from a 100-year flood.

[*Comment*: Where maps for the National Flood Insurance Program produced by the Federal Insurance Administration (FIA) of the Federal Emergency Management Agency are available, they will normally be determinative of whether a facility is located within or outside of the 100-year floodplain. However, where the FIA map excludes an area (usually areas of the floodplain less than 200 feet in width), these areas must be considered and a determination made as to whether they are in the 100-year floodplain. Where FIA maps are not available for a proposed facility location, the owner or operator must use equivalent mapping techniques to determine whether the facility is within the 100-year floodplain, and if so located, what the 100-year flood elevation would be.]

(iv) Owners and operators of facilities located in the 100-year floodplain must provide the following information:

(A) Engineering analysis to indicate the various hydrodynamic and hydrostatic forces expected to result at the site as consequence of a 100-year flood.

(B) Structural or other engineering studies showing the design of operational units (e.g., tanks, incinerators) and flood protection devices (e.g., floodwalls, dikes) at the facility and how these will prevent washout.

(C) If applicable, and in lieu of paragraphs (b)(11)(iv) (A) and (B) of this section, a detailed description of procedures to be followed to remove hazardous waste to safety before the facility is flooded, including:

(*1*) Timing of such movement relative to flood levels, including estimated time to move the waste, to show that such movement can be completed before floodwaters reach the facility.

(*2*) A description of the location(s) to which the waste will be moved and demonstration that those facilities will be eligible to receive hazardous waste in accordance with the regulations under Parts 270, 271, 124, and 264 through 266 of this chapter.

(*3*) The planned procedures, equipment, and personnel to be used and the means to ensure that such resources will be available in time for use.

(*4*) The potential for accidental discharges of the waste during movement.

(v) Existing facilities NOT in compliance with § 264.18(b) shall provide a plan showing how the facility will be brought into compliance and a schedule for compliance.

(12) An outline of both the introductory and continuing training programs by owners or operators to prepare persons to operate or maintain the HWM facility in a safe manner as required to demonstrate compliance with § 264.16. A brief description of how training will be designed to meet actual job tasks in accordance with requirements in § 264.16(a)(3).

(13) A copy of the closure plan and, where applicable, the post-closure plan required by §§ 264.112, 264.118, and 264.197. Include, where applicable, as part of the plans, specific requirements in §§ 264.178, 264.197, 264.228, 264.258, 264.280, 264.310, 264.351, 264.601, and 264.603.

(14) For hazardous waste disposal units that have been closed, documentation that notices required under § 264.119 have been filed.

(15) The most recent closure cost estimate for the facility prepared in accordance with § 264.142 and a copy of the documentation required to demonstrate financial assurance under § 264.143. For a new facility, a copy of the required documentation may be submitted 60 days prior to the initial receipt of hazardous wastes, if that is later than the submission of the Part B.

(16) Where applicable, the most recent post-closure cost estimate for the facility prepared in accordance with § 264.144 plus a copy of the docu-

mentation required to demonstrate financial assurance under § 264.145. For a new facility, a copy of the required documentation may be submitted 60 days prior to the initial receipt of hazardous wastes, if that is later than the submission of the Part B.

(17) Where applicable, a copy of the insurance policy or other documentation which comprises compliance with the requirements of § 264.147. For a new facility, documentation showing the amount of insurance meeting the specification of § 264.147(a) and, if applicable, § 264.147(b), that the owner or operator plans to have in effect before initial receipt of hazardous waste for treatment, storage, or disposal. A request for a variance in the amount of required coverage, for a new or existing facility, may be submitted as specified in § 264.147(c).

(18) Where appropriate, proof of coverage by a State financial mechanism in compliance with § 264.149 or 264.150.

(19) A topographic map showing a istance of 1000 feet around the facili- y at a scale of 2.5 centimeters (1 inch) qual to not more than 61.0 meters 00 feet). Contours must be shown on e map. The contour interval must be fficient to clearly show the pattern f surface water flow in the vicinity of d from each operational unit of the cility. For example, contours with an terval of 1.5 meters (5 feet), if relief greater than 6.1 meters (20 feet), or interval of 0.6 meters (2 feet), if lief is less than 6.1 meters (20 feet). wners and operators of HWM facili- s located in mountainous areas ould use large contour intervals to equately show topographic profiles facilities. The map shall clearly ow the following:

i) Map scale and date.

ii) 100-year floodplain area.

iii) Surface waters including inter- ttant streams.

iv) Surrounding land uses (residen- l, commercial, agricultural, recre- onal).

v) A wind rose (i.e., prevailing wind- eed and direction).

vi) Orientation of the map (north ow).

vii) Legal boundaries of the HWM ility site.

(viii) Access control (fences, gates).

(ix) Injection and withdrawal wells both on-site and off-site.

(x) Buildings; treatment, storage, or disposal operations; or other structure (recreation areas, runoff control systems, access and internal roads, storm, sanitary, and process sewerage systems, loading and unloading areas, fire control facilities, etc.)

(xi) Barriers for drainage or flood control.

(xii) Location of operational units within the HWM facility site, where hazardous waste is (or will be) treated, stored, or disposed (include equipment cleanup areas).

NOTE: For large HWM facilities the Agency will allow the use of other scales on a case-by-case basis.

(20) Applicants may be required to submit such information as may be necessary to enable the Regional Administrator to carry out his duties under other Federal laws as required in § 270.3 of this part.

(21) For land disposal facilities, if a case-by-case extension has been approved under § 268.5 or a petition has been approved uner § 268.6, a copy of the notice of approval for the extension or petition is required.

(c) *Additional information requirements.* The following additional information regarding protection of groundwater is required from owners or operators of hazardous waste facilities containing a regulated unit except as provided in § 264.90(b) of this chapter:

(1) A summary of the ground-water monitoring data obtained during the interim status period under §§ 265.90 through 265.94, where applicable.

(2) Identification of the uppermost aquifer and aquifers hydraulically interconnected beneath the facility property, including ground-water flow direction and rate, and the basis for such identification (*i.e.*, the information obtained from hydrogeologic investigations of the facility area).

(3) On the topographic map required under paragraph (b)(19) of this section, a delineation of the waste management area, the property boundary, the proposed "point of compliance" as defined under § 264.95, the proposed

location of ground-water monitoring wells as required under § 264.97, and, to the extent possible, the information required in paragraph (c)(2) of this section.

(4) A description of any plume of contamination that has entered the ground water from a regulated unit at the time that the application was submitted that:

(i) Delineates the extent of the plume on the topographic map required under paragraph (b)(19) of this section;

(ii) Identifies the concentration of each Appendix IX, of Part 264 of this chapter, constituent throughout the plume or identifies the maximum concentrations of each Appendix IX constituent in the plume.

(5) Detailed plans and an engineering report describing the proposed ground water monitoring program to be implemented to meet the requirements of § 264.97.

(6) If the presence of hazardous constituents has *not* been detected in the ground water at the time of permit application, the owner or operator must submit sufficient information, supporting data, and analyses to establish a detection monitoring program which meets the requirements of § 264.98. This submission must address the following items specified under § 264.98:

(i) A proposed list of indicator parameters, waste constituents, or reaction products that can provide a reliable indication of the presence of hazardous constituents in the ground water;

(ii) A proposed ground-water monitoring system;

(iii) Background values for each proposed monitoring parameter or constituent, or procedures to calculate such values; and

(iv) A description of proposed sampling, analysis and statistical comparison procedures to be utilized in evaluating ground-water monitoring data.

(7) If the presence of hazardous constituents has been detected in the ground water at the point of compliance at the time of the permit application, the owner or operator must submit sufficient information, supporting data, and analyses to establish a compliance monitoring program which meets the requirements of § 264.99. Except as provided in § 264.98(h)(5), the owner or operator must also submit an engineering feasibility plan for a corrective action program necessary to meet the requirements of § 264.100, unless the owner or operator obtains written authorization in advance from the Regional Administrator to submit a proposed permit schedule for submittal of such a plan. To demonstrate compliance with § 264.99, the owner or operator must address the following items:

(i) A description of the wastes previously handled at the facility;

(ii) A characterization of the contaminated ground water, including concentrations of hazardous constituents;

(iii) A list of hazardous constituents for which compliance monitoring will be undertaken in accordance with §§ 264.97 and 264.99;

(iv) Proposed concentration limits for each hazardous constituent, based on the criteria set forth in § 264.94(a), including a justification for establishing any alternate concentration limits;

(v) Detailed plans and an engineering report describing the proposed ground-water monitoring system, in accordance with the requirements of § 264.97; and

(vi) A description of proposed sampling, analysis and statistical comparison procedures to be utilized in evaluating ground-water monitoring data.

(8) If hazardous constituents have been measured in the ground water which exceed the concentration limits established under § 264.94 Table 1, or if ground water monitoring conducted at the time of permit application under §§ 265.90 through 265.94 at the waste boundary indicates the presence of hazardous constituents from the facility in ground water over background concentrations, the owner or operator must submit sufficient information, supporting data, and analyses to establish a corrective action program which meets the requirements of § 264.100. However, an owner or operator is not required to submit information to establish a corrective action program if he demonstrates to the Regional Administrator that alternate concentration limits will protect human health

and the environment after considering the criteria listed in § 264.94(b). An owner or operator who is not required to establish a corrective action program for this reason must instead submit sufficient information to establish a compliance monitoring program which meets the requirements of § 264.99 and paragraph (c)(6) of this section. To demonstrate compliance with § 264.100, the owner or operator must address, at a minimum, the following items:

(i) A characterization of the contaminated ground water, including concentrations of hazardous constituents;

(ii) The concentration limit for each hazardous constituent found in the ground water as set forth in § 264.94;

(iii) Detailed plans and an engineering report describing the corrective action to be taken; and

(iv) A description of how the groundwater monitoring program will demonstrate the adequacy of the corrective action.

(v) The permit may contain a schedule for submittal of the information required in paragraphs (c)(8) (iii) and (iv) provided the owner or operator obtains written authorization from the Regional Administrator prior to submittal of the complete permit application.

(d) Information requirements for solid waste management units.

(1) The following information is required for each solid waste management unit at a facility seeking a permit:

(i) The location of the unit on the topographic map required under paragraph (b)(19) of this section.

(ii) Designation of type of unit.

(iii) General dimensions and structural description (supply any available drawings).

(iv) When the unit was operated.

(v) Specification of all wastes that have been managed at the unit, to the extent available.

(2) The owner or operator of any facility containing one or more solid waste management units must submit all available information pertaining to any release of hazardous wastes or hazardous constituents from such unit or units.

(3) The owner/operator must conduct and provide the results of sampling and analysis of groundwater, landsurface, and subsurface strata, surface water, or air, which may include the installation of wells, where the Director ascertains it is necessary to complete a RCRA Facility Assessment that will determine if a more complete investigation is necessary.

(Approved by the Office of Management and Budget under control numbers 2050-0009, 2050-0002, and 2050-0007)

[48 FR 14228, Apr. 1, 1983; 48 FR 30114, June 30, 1983, as amended at 50 FR 2006, Jan 14, 1985; 51 FR 16458, May 2, 1986; 51 FR 40653, Nov. 7, 1986; 52 FR 23450, July 9, 1987; 52 FR 25953, July 9, 1987; 52 FR 33936, Sept. 9, 1987; 52 FR 45799, Dec. 1, 1987; 52 FR 46965, Dec. 10, 1987; 54 FR 617, Jan. 9, 1989; 55 FR 25517, June 21, 1990]

EFFECTIVE DATE NOTE: At 55 FR 25517, June 21, 1990, in §270.14, the last sentence of paragraph (b)(5), (8)(iv) and (v) were revised and paragraph (b)(8)(vi) was added, effective December 21, 1990. For the cvonvenience of the user the superseded text appears as follows:

§ 270.14 Contents of Part B: General requirements.

* * * * *

(b) * * *

(5) * * * Include where applicable, as part of the inspection schedule, specific requirements in §§ 264.174, 264.193(i), 264.195, 264.226, 264.254, 264.273, 264.303, and 264.602.

* * * * *

(8) * * *

(iv) Mitigate effects of equipment failure and power outages; and

(v) Prevent undue exposure of personnel to hazardous waste (for example, protective clothing).

* * * * *

§ 270.15 Specific Part B information requirements for containers.

Except as otherwise provided in § 264.170, owners or operators of facilities that store containers of hazardous waste must provide the following additional information:

(a) A description of the containment system to demonstrate compliance with § 264.175. Show at least the following:

(1) Basic design parameters, dimensions, and materials of construction.

(2) How the design promotes drainage or how containers are kept from contact with standing liquids in the containment system.

(3) Capacity of the containment system relative to the number and volume of containers to be stored.

(4) Provisions for preventing or managing run-on.

(5) How accumulated liquids can be analyzed and removed to prevent overflow.

(b) For storage areas that store containers holding wastes that do not contain free liquids, a demonstration of compliance with § 264.175(c), including:

(1) Test procedures and results or other documentation or information to show that the wastes do not contain free liquids; and

(2) A description of how the storage area is designed or operated to drain and remove liquids or how containers are kept from contact with standing liquids.

(c) Sketches, drawings, or data demonstrating compliance with § 264.176 (location of buffer zone and containers holding ignitable or reactive wastes) and § 264.177(c) (location of incompatible wastes), where applicable.

(d) Where incompatible wastes are stored or otherwise managed in containers, a description of the procedures used to ensure compliance with §§ 264.177 (a) and (b), and 264.17 (b) and (c).

[48 FR 14228, Apr. 1, 1983; 48 FR 30114, June 30, 1983]

§ 270.16 Specific Part B information requirements for tank systems.

Except as otherwise provided in § 264.190, owners and operators of facilities that use tanks to store or treat hazardous waste must provide the following additional information:

(a) A written assessment that is reviewed and certified by an independent, qualified, registered professional engineer as to the structural integrity and suitability for handling hazardous waste of each tank system, as requ under §§ 264.191 and 264.192;

(b) Dimensions and capacity of tank;

(c) Description of feed syst safety cutoff, bypass systems, pressure controls (e.g., vents);

(d) A diagram of piping, instrun tation, and process flow for each system;

(e) A description of materials equipment used to provide exte corrosion protection, as requ under § 264.192(a)(3)(ii);

(f) For new tank systems, a deta description of how the tank syste will be installed in compliance § 264.192 (b), (c), (d), and (e);

(g) Detailed plans and descriptio how the secondary containm system for each tank system is or be designed, constructed, and opera to meet the requirements of § 264 (a), (b), (c), (d), (e), and (f);

(h) For tank systems for whic variance from the requirements § 264.193 is sought (as provided §§ 264.193(g)):

(1) Detailed plans and engineer and hydrogeologic reports, as app priate, describing alternate design operating practices that will, in junction with location aspects, prev the migration of any hazardous w or hazardous constituents into ground water or surface water dur the life of the facility, or

(2) A detailed assessment of the s stantial present or potential haza posed to human health or the envir ment should a release enter the e ronment.

(i) Description of controls and p tices to prevent spills and overflows required under § 264.194(b); and

(j) For tank systems in which ign ble, reactive, or incompatible was are to be stored or treated, a desc tion of how operating procedures tank system and facility design achieve compliance with the requ ments of §§ 264.198 and 264.199.

(Information collection requirements tained in paragraphs (a)-(j) were appro by the Office of Management and Bud under control number 2050-0050)

[51 FR 25486, July 14, 1986; 51 FR 29 Aug. 15, 1986]

§ 270.17 Specific Part B information requirements for surface impoundments.

Except as otherwise provided in § 264.1, owners and operators of facilities that store, treat or dispose of hazardous waste in surface impoundments must provide the following additional information:

(a) A list of the hazardous wastes placed or to be placed in each surface impoundment;

(b) Detailed plans and an engineering report describing how the surface impoundment is or will be designed, constructed, operated and maintained to meet the requirements of § 264.221. This submission must address the following items as specified in § 264.221:

(1) The liner system (except for an existing portion of a surface impoundment). If an exemption from the requirement for a liner is sought as provided by § 264.221(b), submit detailed plans and engineering and hydrogeologic reports, as appropriate, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into the ground water or surface water at any future time;

(2) Prevention of overtopping; and

(3) Structural integrity of dikes;

(c) A description of how each surface impoundment, including the liner and cover systems and appurtenances for control of overtopping, will be inspected in order to meet the requirements of § 264.226(a) and (b). This information should be included in the inspection plan submitted under § 270.14(b)(5);

(d) A certification by a qualified engineer which attests to the structural integrity of each dike, as required under § 264.226(c). For new units, the owner or operator must submit a statement by a qualified engineer that he will provide such a certification upon completion of construction in accordance with the plans and specifications;

(e) A description of the procedure to be used for removing a surface impoundment from service, as required under § 264.227(b) and (c). This information should be included in the contingency plan submitted under § 270.14(b)(7);

(f) A description of how hazardous waste residues and contaminated materials will be removed from the unit at closure, as required under § 264.228(a)(1). For any wastes not to be removed from the unit upon closure, the owner or operator must submit detailed-plans and an engineering report describing how § 264.228(a)(2) and (b) will be complied with. This information should be included in the closure plan and, where applicable, the post-closure plan submitted under § 270.14(b)(13);

(g) If ignitable or reactive wastes are to be placed in a surface impoundment, an explanation of how § 264.229 will be complied with;

(h) If incompatible wastes, or incompatible wastes and materials will be placed in a surface impoundment, an explanation of how § 264.230 will be complied with.

(i) A waste management plan for EPA Hazardous Waste Nos. FO20, FO21, FO22, FO23, FO26, and FO27 describing how the surface impoundment is or will be designed, constructed, operated, and maintained to meet the requirements of § 264.231. This submission must address the following items as specified in § 264.231:

(1) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(2) The attenuative properties of underlying and surrounding soils or other materials;

(3) The mobilizing properties of other materials co-disposed with these wastes; and

(4) The effectiveness of additional treatment, design, or monitoring techniques.

[48 FR 14228, Apr. 1, 1983, as amended at 50 FR 2006, Jan. 14, 1985; 50 FR 28752, July 15, 1985]

§ 270.18 Specific Part B information requirements for waste piles.

Except as otherwise provided in § 264.1, owners and operators of facilities that store or treat hazardous waste in waste piles must provide the following additional information:

(a) A list of hazardous wastes placed or to be placed in each waste pile;

(b) If an exemption is sought to § 264.251 and Subpart F of Part 264 as provided by § 264.250(c) or § 264.90(2), an explanation of how the standards of § 264.250(c) will be complied with or detailed plans and an engineering report describing how the requirements of § 264.90(b)(2) will be met.

(c) Detailed plans and an engineering report describing how the pile is or will be designed, constructed, operated and maintained to meet the requirements of § 264.251. This submission must address the following items as specified in § 264.251:

(1) The liner system (except for an existing portion of a pile). If an exemption from the requirement for a liner is sought, as provided by § 264.252(b), the owner or operator must submit detailed plans and engineering and hydrogeologic reports, as applicable, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into the ground water or surface water at any future time;

(2) Control of run-on;

(3) Control of run-off;

(4) Management of collection and holding units associated with run-on and run-off control systems; and

(5) Control of wind dispersal of particulate matter, where applicable;

(d) A description of how each waste pile, including the liner and appurtenances for control of run-on and run-off, will be inspected in order to meet the requirements of § 264.254(a) and (b). This information should be included in the inspection plan submitted under § 270.14(b)(5).

(e) If treatment is carried out on or in the pile, details of the process and equipment used, and the nature and quality of the residuals;

(f) If ignitable or reactive wastes are to be placed in a waste pile, an explanation of how the requirements of § 264.256 will be complied with;

(g) If incompatible wastes, or incompatible wastes and materials will be place in a waste pile, an explanation of how § 264.257 will be complied with;

(h) A description of how hazardous waste residues and contaminated materials will be removed from the waste pile at closure, as required under § 264.258(a). For any waste not to be removed from the waste pile upon closure, the owner or operator must submit detailed plans and an engineering report describing how § 264.310 (a) and (b) will be complied with. This information should be included in the closure plan and, where applicable, the post-closure plan submitted under § 270.14(b)(13).

(i) A waste management plan for EPA Hazardous Waste Nos. FO20, FO21, FO22, FO23, FO26, and FO27 describing how a waste pile that is not enclosed (as defined in § 264.250(c)) is or will be designed, constructed, operated, and maintained to meet the requirements of § 264.259. This submission must address the following items as specified in § 264.259:

(1) The volume, physical, and chemical characteristics of the wastes to be disposed in the waste pile, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(2) The attenuative properties of underlying and surrounding soils or other materials;

(3) The mobilizing properties of other materials co-disposed with these wastes; and

(4) The effectiveness of additional treatment, design, or monitoring techniques.

[48 FR 14228, Apr. 1, 1983, as amended at 50 FR 2006, Jan. 14, 1985; 50 FR 28752, July 15, 1985]

§ 270.19 Specific Part B information requirements for incinerators.

Except as § 264.340 of this chapter provides otherwise, owners and operators of facilities that incinerate hazardous waste must fulfill the requirements of (a), (b), or (c) of this section.

(a) When seeking an exemption under § 264.340 (b) or (c) of this chapter (Ignitable, corrosive, or reactive wastes only):

(1) Documentation that the waste is listed as a hazardous waste in Part 261, Subpart D of this chapter, solely because it is ignitable (Hazard Code I) or corrosive (Hazard Code C) or both; or

(2) Documentation that the waste is listed as a hazardous waste in Part 261, Subpart D of this chapter, solely because it is reactive (Hazard Code R) for characteristics other than those listed in § 261.23(a) (4) and (5) of this chapter, and will not be burned when other hazardous wastes are present in the combustion zone; or

(3) Documentation that the waste is a hazardous waste solely because it possesses the characteristic of ignitability, corrosivity, or both, as determined by the tests for characteristics of hazardous waste under Part 261, Subpart C of this chapter; or

(4) Documentation that the waste is a hazardous waste solely because it possesses the reactivity characteristics listed in § 261.23(a) (1), (2), (3), (6), (7), or (8) of this chapter, and that it will not be burned when other hazardous wastes are present in the combustion zone; or

(b) Submit a trial burn plan or the results of a trial burn, including all required determinations, in accordance with § 270.62; or

(c) In lieu of a trial burn, the applicant may submit the following information:

(1) An analysis of each waste or mixture of wastes to be burned including:

(i) Heat value of the waste in the form and composition in which it will be burned.

(ii) Viscosity (if applicable), or description of physical form of the waste.

(iii) An identification of any hazardous organic constituents listed in Part 261, Appendix VIII, of this chapter, which are present in the waste to be burned, except that the applicant need not analyze for constituents listed in Part 261, Appendix VIII, of this chapter which would reasonably not be expected to be found in the waste. The constituents excluded from analysis must be identified and the basis for their exclusion stated. The waste analysis must rely on analytical techniques specified in "Test methods for the evaluation of Solid Waste, Physical/Chemical Methods" (incorporated by reference, see § 270.6 and referenced in 40 CFR Part 261, Appendix III), or their equivalent.

(iv) An approximate quantification of the hazardous constituents identified in the waste, within the precision produced by the analytical methods specified in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (incorporated by reference, see § 270.6).

(v) A quantification of those hazardous constituents in the waste which may be designated as POHC's based on data submitted from other trial or operational burns which demonstrate compliance with the performance standards in § 264.343 of this chapter.

(2) A detailed engineering description of the incinerator, including:

(i) Manufacturer's name and model number of incinerator.

(ii) Type of incinerator.

(iii) Linear dimension of incinerator unit including cross sectional area of combustion chamber.

(iv) Decription of auxiliary fuel system (type/feed).

(v) Capacity of prime mover.

(vi) Description of automatic waste feed cutoff system(s).

(vii) Stack gas monitoring and pollution control monitoring system.

(viii) Nozzle and burner design.

(ix) Construction materials.

(x) Location and description of temperature, pressure, and flow indicating devices and control devices.

(3) A description and analysis of the waste to be burned compared with the waste for which data from operational or trial burns are provided to support the contention that a trial burn is not needed. The data should include those items listed in paragraph (c)(1) of this section. This analysis should specify the POHC's which the applicant has idenitified in the waste for which a permit is sought, and any differeneces from the POHC's in the waste for which burn data are provided.

(4) The design and operating conditions of the incinerator unit to be used, compared with that for which comparative burn data are available.

(5) A description of the results submitted from any previously conducted trial burn(s) including:

(i) Sampling and analysis techniques used to calculate performance standards in § 264.343 of this chapter,

(ii) Methods and results of monitoring temperatures, waste feed rates, carbon monoxide, and an appropriate indicator of combustion gas velocity (including a statement concerning the precision and accuracy of this measurement),

(6) The expected incinerator operation information to demonstrate compliance with §§ 264.343 and 264.345 of this chapter including:

(i) Expected carbon monoxide (CO) level in the stack exhaust gas.

(ii) Waste feed rate.

(iii) Combustion zone temperature.

(iv) Indication of combustion gas velocity.

(v) Expected stack gas volume, flow rate, and temperature.

(vi) Computed residence time for waste in the combustion zone.

(vii) Expected hydrochloric acid removal efficiency.

(viii) Expected fugitive emissions and their control procedures.

(ix) Proposed waste feed cut-off limits based on the identified significant operating parameters.

(7) Such supplemental information as the Director finds necessary to achieve the purposes of this paragraph.

(8) Waste analysis data, including that submitted in paragraph (c)(1) of this section, sufficient to allow the Director to specify as permit Principal Organic Hazardous Constituents (permit POHC's) those constituents for which destruction and removal efficiencies will be required.

(d) The Director shall approve a permit application without a trial burn if he finds that:

(1) The wastes are sufficiently similar; and

(2) The incinerator units are sufficiently similar, and the data from other trial burns are adequate to specify (under § 264.345 of this chapter) operating conditions that will ensure that the performance standards in § 264.343 of this chapter will be met by the incinerator.

§ 270.20 Specific Part B information requirements for land treatment facilities.

Except as otherwise provided in § 264.1, owners and operators of facilities that use land treatment to dispose of hazardous waste must provide the following additional information:

(a) A description of plans to conduct a treatment demonstration as required under § 264.272. The description must include the following information;

(1) The wastes for which the demonstration will be made and the potential hazardous constituents in the waste;

(2) The data sources to be used to make the demonstration (*e.g.*, literature, laboratory data, field data, or operating data);

(3) Any specific laboratory or field test that will be conducted, including:

(i) The type of test (*e.g.*, column leaching, degradation);

(ii) Materials and methods, including analytical procedures;

(iii) Expected time for completion;

(iv) Characteristics of the unit that will be simulated in the demonstration, including treatment zone characteristics, climatic conditions, and operating practices.

(b) A description of a land treatment program, as required under § 264.271. This information must be submitted with the plans for the treatment demonstration, and updated following the treatment demonstration. The land treatment program must address the following items:

(1) The wastes to be land treated;

(2) Design measures and operating practices necessary to maximize treatment in accordance with § 264.273(a) including:

(i) Waste application method and rate;

(ii) Measures to control soil pH;

(iii) Enhancement of microbial or chemical reactions;

(iv) Control of moisture content;

(3) Provisions for unsaturated zone monitoring, including:

(i) Sampling equipment, procedures, and frequency;

(ii) Procedures for selecting sampling locations;

(iii) Analytical procedures;

(iv) Chain of custody control;

(v) Procedures for establishing background values;

(vi) Statistical methods for interpreting results;

(vii) The justification for any hazardous constituents recommended for selection as principal hazardous constituents, in accordance with the criteria for such selection in § 264.278(a);

(4) A list of hazardous constituents reasonably expected to be in, or derived from, the wastes to be land treated based on waste analysis performed pursuant to § 264.13;

(5) The proposed dimensions of the reatment zone;

(c) A description of how the unit is r will be designed, constructed, operated, and maintained in order to meet he requirements of § 264.273. This ubmission must address the following tems:

(1) Control of run-on;

(2) Collection and control of run-off;

(3) Minimization of run-off of hazrdous constituents from the treatment zone;

(4) Management of collection and olding facilities associated with run-n and run-off control systems;

(5) Periodic inspection of the unit. This information should be included n the inspection plan submitted under 270.14(b)(5);

(6) Control of wind dispersal of parculate matter, if applicable;

(d) If food-chain crops are to be rown in or on the treatment zone of he land treatment unit, a description f how the demonstration required nder § 264.276(a) will be conducted ncluding:

(1) Characteristics of the food-chain rop for which the demonstration will e made.

(2) Characteristics of the waste, eatment zone, and waste application ethod and rate to be used in the emonstration;

(3) Procedures for crop growth, mple collection, sample analysis, and ata evaluation;

(4) Characteristics of the comparin crop including the location and nditions under which it was or will e grown;

(e) If food-chain crops are to be own, and cadmium is present in the nd-treated waste, a description of w the requirements of § 264.276(b) ll be complied with;

(f) A description of the vegetative ver to be applied to closed portions the facility, and a plan for maintining such cover during the post-closure care period, as required under § 264.280(a)(8) and § 264.280(c)(2). This information should be included in the closure plan and, where applicable, the post-closure care plan submitted under § 270.14(b)(13);

(g) If ignitable or reactive wastes will be placed in or on the treatment zone, an explanation of how the requirements of § 264.281 will be complied with;

(h) If incompatible wastes, or incompatible wastes and materials, will be placed in or on the same treatment zone, an explanation of how § 264.282 will be complied with.

(i) A waste management plan for EPA Hazardous Waste Nos. FO20, FO21, FO22, FO23, FO26, and FO27 describing how a land treatment facility is or will be designed, constructed, operated, and maintained to meet the requirements of § 264.283. This submission must address the following items as specified in § 264.283:

(1) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(2) The attentuative properties of underlying and surrounding soils or other materials;

(3) The mobilizing properties of other materials co-disposed with these wastes; and

(4) The effectiveness of additional treatment, design, or monitoring techniques.

[48 FR 14228, Apr. 1, 1983; 48 FR 30114, June 30, 1983, as amended at 50 FR 2006, Jan. 14, 1985]

§ 270.21 Specific Part B information requirements for landfills.

Except as otherwise provided in § 264.1, owners and operators of facilities that dispose of hazardous waste in landfills must provide the following additional information:

(a) A list of the hazardous wastes placed or to be placed in each landfill or landfill cell;

(b) Detailed plans and an engineering report describing how the landfill is or will be designed, constructed, operated and maintained to comply with the requirements of § 264.301. This submission must address the following items as specified in § 264.301:

(1) The liner system and leachate collection and removal system (except for an existing portion of a landfill). If an exemption from the requirements for a liner and a leachate collection and removal system is sought as provided by § 264.301(b), submit detailed plans and engineering and hydrogeologic reports, as appropriate, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituent into the ground water or surface water at any future time;

(2) Control of run-on;

(3) Control of run-off;

(4) Management of collection and holding facilities associated with run-on and run-off control systems; and

(5) Control of wind dispersal of particulate matter, where applicable;

(c) If an exemption from Subpart F of Part 264 is sought, as provided by § 264.302(a), the owner or operator must submit detailed plans and an engineering report explaining the location of the saturated zone in relation to the landfill, the design of a double-liner system that incorporates a leak detection system between the liners, and a leachate collection and removal system above the liners;

(d) A description of how each landfill, including the liner and cover systems, will be inspected in order to meet the requirements of § 264.303 (a) and (b). This information should be included in the inspection plan submitted under § 270.14(b)(5).

(e) Detailed plans and an engineering report describing the final cover which will be applied to each landfill or landfill cell at closure in accordance with § 264.310(a), and a description of how each landfill will be maintained and monitored after closure in accordance with § 264.310(b). This information should be included in the closure and post-closure plans submitted under § 270.14(b)(13).

(f) If ignitable or reactive wastes will be landfilled, an explanation of how the standards of § 264.312 will be complied with;

(g) If incompatible wastes, or incompatible wastes and materials will be landfilled, an explanation of how § 264.313 will be complied with;

(h) If bulk or non-containerized liquid waste or wastes containing free liquids is to be landfilled prior to May 8, 1985, an explanation of how the requirements of § 264.314(a) will be complied with;

(i) If containers of hazardous waste are to be landfilled, an explanation of how the requirements of § 264.315 or § 264.316, as applicable, will be complied with.

(j) A waste management plan for EPA Hazardous Waste Nos. FO20, FO21, FO22, FO23, FO26, and FO27 describing how a landfill is or will be designed, constructed, operated, and maintained to meet the requirements of § 264.317. This submission must address the following items as specified in § 264.317:

(1) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere;

(2) The attenuative properties of underlying and surrounding soils or other materials;

(3) The mobilizing properties of other materials co-disposed with these wastes; and

(4) The effectiveness of additional treatment, design, or monitoring techniques.

[48 FR 14228, Apr. 1, 1983; 48 FR 30114, June 30, 1983, as amended at 50 FR 2006, Jan. 14, 1985; 50 FR 28752, July 15, 1985]

§§ 270.22 [Reserved]

§ 270.23 Specific Part B information requirements for miscellaneous units.

Except as otherwise provided in § 264.600, owners and operators of facilities that treat, store, or dispose of hazardous waste in miscellaneous units must provide the following additional information:

(a) A detailed description of the unit being used or proposed for use, including the following:

(1) Physical characteristics, materials of construction, and dimensions of the unit;

(2) Detailed plans and engineering reports describing how the unit will be

located, designed, constructed, operated, maintained, monitored, inspected, and closed to comply with the requirements of §§ 264.601 and 264.602; and

(3) For disposal units, a detailed description of the plans to comply with the post-closure requirements of § 264.603.

(b) Detailed hydrologic, geologic, and meteorologic assessments and land-use maps for the region surrounding the site that address and ensure compliance of the unit with each factor in the environmental performance standards of § 264.601. If the applicant can demonstrate that he does not violate the environmental performance standards of § 264.601 and the Director agrees with such demonstration, preliminary hydrologc, geologic, and meteorologic assessments will suffice.

(c) Information on the potential pathways of exposure of humans or environmental receptors to hazardous waste or hazardous constituents and on the potential magnitude and nature of such exposures.

(d) For any treatment unit, a report on a demonstration of the effectiveness of the treatment based on laboraory or field data.

(e) Any additional information determined by the Director to be necesary for evaluation of compliance of the unit with the environmental performance standards of § 264.601.

Information collection requirements in this section have been approved by the Office of Management and Budget under control number 2050-0074)

270.24 Specific Part B information requirements for process vents.

Except as otherwise provided in 264.1, owners and operators of facilities that have process vents to which subpart AA of part 264 applies must provide the following additional information:

(a) For facilities that cannot install a closed-vent system and control device to comply with the provisions of 40 CFR 264 subpart AA on the effective date that the facility becomes subject to the provisions of 40 CFR 264 or 265 subpart AA, an implementation schedule as specified in § 264.1033(a)(2).

(b) Documentation of compliance with the process vent standards in § 264.1032, including:

(1) Information and data identifying all affected process vents, annual throughput and operating hours of each affected unit, estimated emission rates for each affected vent and for the overall facility (i.e., the total emissions for all affected vents at the facility), and the approximate location within the facility of each affected unit (e.g., identify the hazardous waste management units on a facility plot plan).

(2) Information and data supporting estimates of vent emissions and emission reduction achieved by add-on control devices based on engineering calculations or source tests. For the purpose of determining compliance, estimates of vent emissions and emission reductions must be made using operating parameter values (e.g., temperatures, flow rates, or concentrations) that represent the conditions that exist when the waste management unit is operating at the highest load or capacity level reasonably expected to occur.

(3) Information and data used to determine whether or not a process vent is subject to the requirements of § 264.1032.

(c) Where an owner or operator applies for permission to use a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system to comply with the requirements of § 264.1032, and chooses to use test data to determine the organic removal efficiency or the total organic compound concentration achieved by the control device, a performance test plan as specified in § 264.1035(b)(3).

(d) Documentation of compliance with § 264.1033, including:

(1) A list of all information references and sources used in preparing the documentation.

(2) Records including the dates of each compliance test required by § 264.103(k).

(3) A design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on the appropriate sections of "APTI

Course 415: Control of Gaseous Emissions" (incorporated by reference as specified in § 260.11) or other engineering texts acceptable to the Regional Administrator that present basic control device design information. The design analysis shall address the vent stream characteristics and control device operation parameters as specified in § 264.1035(b)(4)(iii).

(4) A statement signed and dated by the owner or operator certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is or would be operating at the highest load or capacity level reasonably expected to occur.

(5) A statement signed and dated by the owner or operator certifying that the control device is designed to operate at an efficiency of 95 weight percent or greater unless the total organic emission limits of § 264.1032(a) for affected process vents at the facility can be attained by a control device involving vapor recovery at an efficiency less than 95 weight percent.

(Approved by the Office of Management and Budget under control number 2060-0195)

[55 FR 25518, June 21, 1990]

EFFECTIVE DATE NOTE: At 55 FR 25518, June 21, 1990, § 270.24 was added, effective December 21, 1990.

§ 270.25 Specific part B information requirements for equipment.

Except as otherwise provided in § 264.1, owners and operators of facilities that have equipment to which subpart BB of part 264 applies must provide the following additional information:

(a) For each piece of equipment to which subpart BB of part 264 applies:

(1) Equipment identification number and hazardous waste management unit identification.

(2) Approximate locations within the facility (e.g., identify the hazardous waste management unit on a facility plot plan).

(3) Type of equipment (e.g., a pump or pipeline valve).

(4) Percent by weight total organics in the hazardous waste stream at the equipment.

(5) Hazardous waste state at the equipment (e.g., gas/vapor or liquid).

(6) Method of compliance with the standard (e.g., "monthly leak detection and repair" or "equipped with dual mechanical seals").

(b) For facilities that cannot install a closed-vent system and control device to comply with the provisions of 40 CFR 264 subpart BB on the effective date that the facility becomes subject to the provisions of 40 CFR 264 or 265 subpart BB, an implementation schedule as specified in § 264.1033(a)(2).

(c) Where an owner or operator applies for permission to use a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system and chooses to use test data to determine the organic removal efficiency or the total organic compound concentration achieved by the control device, a performance test plan as specified in § 264.1035(b)(3).

(d) Documentation that demonstrates compliance with the equipment standards in §§ 264.1052 to 264.1059. This documentation shall contain the records required under § 264.1064. The Regional Administrator may request further documentation before deciding if compliance has been demonstrated.

(e) Documentation to demonstrate compliance with § 264.1060 shall include the following information:

(1) A list of all information references and sources used in preparing the documentation.

(2) Records including the dates of each compliance test required by § 264.1033(j).

(3) A design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on the appropriate sections of "APTI Course 415: Control of Gaseous Emissions" (incorporated by reference as specified in § 260.11) or other engineering texts acceptable to the Regional Administrator that present basic control device design information. The design analysis shall address the vent stream characteristics and control device operation parameters as specified in § 264.1035(b)(4)(iii).

(4) A statement signed and dated by the owner or operator certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur.

(5) A statement signed and dated by the owner or operator certifying that the control device is designed to operate at an efficiency of 95 weight percent or greater.

(Approved by the Office of Management and Budget under control number 2060-0915)

[55 FR 25518, June 21, 1990]

EFFECTIVE DATE NOTE: At 55 FR 25518, June 21, 1990, § 270.25 was added, effective December 21, 1990.

§§ 270.26—270.28 [Reserved]

§ 270.29 Permit denial.

The Director may, pursuant to the procedures in Part 124, deny the permit application either in its entirety or as to the active life of a hazardous waste management facility or unit only.

[54 FR 9607, Mar. 7, 1989]

Subpart C—Permit Conditions

§ 270.30 Conditions applicable to all permits.

The following conditions apply to all RCRA permits, and shall be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to these regulations (or the corresponding approved State regulations) must be given in the permit.

(a) *Duty to comply.* The permittee must comply with all conditions of this permit, except that the permittee need not comply with the conditions of this permit to the extent and for the duration such noncompliance is authorized in an emergency permit. (See § 270.61). Any permit noncompliance, except under the terms of an emergency permit, constitutes a violation of the appropriate Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

(b) *Duty to reapply.* If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit.

(c) *Need to halt or reduce activity not a defense.* It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(d) In the event of noncompliance with the permit, the permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment.

(e) *Proper operation and maintenance.* The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the opration of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of the permit.

(f) *Permit actions.* This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

(g) *Property rights.* The permit does not convey any property rights of any sort, or any exclusive privilege.

(h) *Duty to provide information.* The permittee shall furnish to the Director, within a reasonable time, any relevant information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

(i) *Inspection and entry.* The permittee shall allow the Director, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:

(1) Enter at reasonable times upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

(2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(3) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

(4) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by RCRA, any substances or parameters at any location.

(j) *Monitoring and records.* (1) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(2) The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, the certification required by § 264.73(b)(9) of this chapter, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report, certification, or application. This period may be extended by request of the Director at any time. The permittee shall maintain records from all ground-water monitoring wells and associated ground-water surface elevations, for the active life of the facility, and for disposal facilities for the post-closure care period as well.

(3) Records for monitoring information shall include:

(i) The date, exact place, and time of sampling or measurements;

(ii) The individual(s) who performed the sampling or measurements;

(iii) The date(s) analyses were performed;

(iv) The individual(s) who performed the analyses;

(v) The analytical techniques or methods used; and

(vi) The results of such analyses.

(k) *Signatory requirements.* All applications, reports, or information submitted to the Director shall be signed and certified (See § 270.11.)

(l) *Reporting requirements.* (1) *Planned changes.* The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility.

(2) *Anticipated noncompliance.* The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. For a new facility, the permittee may not treat, store, or dispose of hazardous waste; and for a facility being modified, the permittee may not treat, store, or dispose of hazardous waste in the modified portion of the facility except as provided in § 270.42, until:

(i) The permittee has submitted to the Director by certified mail or hand delivery a letter signed by the permittee and a registered professional engineer stating that the facility has been constructed or modified in compliance with the permit; and

(ii)(A) The Director has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of the permit; or

(B) Within 15 days of the date of submission of the letter in paragraph (l)(2)(i) of this section, the permittee has not received notice from the Director of his or her intent to inspect, prior inspection is waived and the permittee may commence treatment, storage, or disposal of hazardous waste.

(3) *Transfers.* This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the per-

mittee and incorporate such other requirements as may be necessary under RCRA. (See § 270.40)

(4) *Monitoring reports.* Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(5) *Compliance schedules.* Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

(6) *Twenty-four hour reporting.* (i) The permittee shall report any noncompliance which may endanger health or the environment orally within 24 hours from the time the permittee becomes aware of the circum- tances, including:

(A) Information concerning release f any hazardous waste that may ause an endangerment to public rinking water supplies.

(B) Any information of a release or lischarge of hazardous waste or of a ire or explosion from the HWM facili- y, which could threaten the environ- nent or human health outside the fa- ility.

(ii) The description of the occur- ence and its cause shall include:

(A) Name, address, and telephone umber of the owner or operator;

(B) Name, address, and telephone umber of the facility;

(C) Date, time, and type of incident;

(D) Name and quantity of aterial(s) involved;

(E) The extent of injuries, if any;

(F) An assessment of actual or po- ential hazards to the environment nd human health outside the facility, here this is applicable; and

(G) Estimated quantity and disposi- on of recovered material that result- d from the incident.

(iii) A written submission shall also e provided within 5 days of the time e permittee becomes aware of the rcumstances. The written submission all contain a description of the non- mpliance and its cause; the period of oncompliance including exact dates d times, and if the noncompliance s not been corrected, the anticipat- l time it is expected to continue; and eps taken or planned to reduce, iminate, and prevent reoccurrence of the noncompliance. The Director may waive the five day written notice requirement in favor of a written report within fifteen days.

(7) *Manifest discrepancy report:* If a significant discrepancy in a manifest is discovered, the permittee must attempt to reconcile the discrepancy. If not resolved within fifteen days, the permittee must submit a letter report, including a copy of the manifest, to the Director. (See 40 CFR 264.72.)

(8) *Unmanifested waste report:* This report must be submitted to the Director within 15 days of receipt of unmanifested waste. (See 40 CFR 264.76)

(9) *Biennial report:* A biennial report must be submitted covering facility activities during odd numbered calendar years. (See 40 CFR 264.75.)

(10) *Other noncompliance.* The permittee shall report all instances of noncompliance not reported under paragraphs (l)(4), (5), and (6) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (l)(6) of this section.

(11) *Other information.* Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

(Clean Water Act (33 U.S.C. 1251 et seq.), Safe Drinking Water Act (42 U.S.C. 300f et seq.), Clean Air Act (42 U.S.C. 7401 et seq.), Resource Conservation and Recovery Act (42 U.S.C. 6901 et seq.))

[48 FR 14228, Apr. 1, 1983, as amended at 48 FR 30114, June 30, 1983; 48 FR 39622, Sept. 1, 1983; 50 FR 28752, July 15, 1985; 53 FR 37935, Sept. 28, 1988]

§ 270.31 Requirements for recording and reporting of monitoring results.

All permits shall specify:

(a) Requirements concerning the proper use, maintenance, and installation, when appropriate, of monitoring equipment or methods (including biological monitoring methods when appropriate);

(b) Required monitoring including type, intervals, and frequency sufficient to yield data which are representative of the monitored activity including, when appropriate, continuous monitoring;

(c) Applicable reporting requirements based upon the impact of the regulated activity and as specified in Parts 264, 266 and 267. Reporting shall be no less frequent than specified in the above regulations.

§ 270.32 Establishing permit conditions.

(a) In addition to conditions required in all permits (§ 270.30), the Director shall establish conditions, as required on a case-by-case basis, in permits under §§ 270.50 (duration of permits), 270.33(a) (schedules of compliance), 270.31 (monitoring), and for EPA issued permits only, 270.33(b) (alternate schedules of compliance) and 270.3 (considerations under Federal law).

(b)(1) Each RCRA permit shall include permit conditions necessary to achieve compliance with the Act and regulations, including each of the applicable requirements specified in Parts 264 and 266 through 268 of this chapter. In satisfying this provision, the Administrator may incorporate applicable requirements of Parts 264 and 266 through 268 of this chapter directly into the permit or establish other permit conditions that are based on these parts.

(2) Each permit issued under section 3005 of this act shall contain terms and conditions as the Administrator or State Director determines necessary to protect human health and the environment.

(c) For a State issued permit, an applicable requirement is a State statutory or regulatory requirement which takes effect prior to final administrative disposition of a permit. For a permit issued by EPA, an applicable requirement is a statutory or regulatory requirement (including any interim final regulation) which takes effect prior to the issuance of the permit (except as provided in § 124.86(c) for RCRA permits being processed under Subpart E or F of Part 124). Section 124.14 (reopening of comment period) provides a means for reopening EPA permit proceedings at the discretion of the Director where new requirements become effective during the permitting process and are of sufficient magnitude to make additional proceedings desirable. For State and EPA administered programs, an applicable requirement is also any requirement which takes effect prior to the modification or revocation and reissuance of a permit, to the extent allowed in § 270.41.

(d) New or reissued permits, and to the extent allowed under § 270.41, modified or revoked and reissued permits, shall incorporate each of the applicable requirements referenced in this section and in 40 CFR 270.31.

(e) *Incorporation*. All permit conditions shall be incorporated either expressly or by reference. If incorporated by reference, a specific citation to the applicable regulations or requirements must be given in the permit.

[48 FR 14228, Apr. 1, 1983, as amended at 50 FR 28752, July 15, 1985; 51 FR 40653, Nov. 7, 1986]

§ 270.33 Schedules of compliance.

(a) The permit may, when appropriate, specify a schedule of compliance leading to compliance with the Act and regulations.

(1) *Time for compliance*. Any schedules of compliance under this section shall require compliance as soon as possible.

(2) *Interim dates*. Except as provided in paragraph (b)(1)(ii) of this section, if a permit establishes a schedule of compliance which exceeds 1 year from the date of permit issuance, the schedule shall set forth interim requirements and the dates for their achievement.

(i) The time between interim dates shall not exceed 1 year.

(ii) If the time necessary for completion of any interim requirement is more than 1 year and is not readily divisible into stages for completion, the permit shall specify interim dates for the submission of reports of progress toward completion of the interim requirements and indicate a projected completion date.

(3) *Reporting*. The permit shall be written to require that no later than 14 days following each interim date and the final date of compliance, the permittee shall notify the Director in writing, of its compliance or noncom-

pliance with the interim or final requirements.

(b) *Alternative schedules of compliance.* An RCRA permit applicant or permittee may cease conducting regulated activities (by receiving a terminal volume of hazardous waste and, for treatment and storage HWM facilities, closing pursuant to applicable requirements; and, for disposal HWM facilities, closing and conducting post-closure care pursuant to applicable requirements) rather than continue to operate and meet permit requirements as follows:

(1) If the permittee decides to cease conducting regulated activities at a given time within the term of a permit which has already been issued:

(i) The permit may be modified to contain a new or additional schedule leading to timely cessation of activities; or

(ii) The permittee shall cease conducting permitted activities before noncompliance with any interim or final compliance schedule requirement already specified in the permit.

(2) If the decision to cease conducting regulated activities is made before issuance of a permit whose term will include the termination date, the permit shall contain a schedule leading to termination which will ensure timely compliance with applicable requirements.

(3) If the permittee is undecided whether to cease conducting regulated activities, the Director may issue or modify a permit to contain two schedules as follows:

(i) Both schedules shall contain an identical interim deadline requiring a final decision on whether to cease conducting regulated activities no later than a date which ensures sufficient time to comply with applicable requirements in a timely manner if the decision is to continue conducting regulated activities;

(ii) One schedule shall lead to timely compliance with applicable requirements;

(iii) The second schedule shall lead to cessation of regulated activities by a date which will ensure timely compliance with applicable requirements;

(iv) Each permit containing two schedules shall include a requirement that after the permittee has made a final decision under paragraph (b)(3)(i) of this section it shall follow the schedule leading to compliance if the decision is to continue conducting regulated activities, and follow the schedule leading to termination if the decision is to cease conducting regulated activities.

(4) The applicant's or permittee's decision to cease conducting regulated activities shall be evidenced by a firm public commitment satisfactory to the Director, such as resolution of the board of directors of a corporation.

[48 FR 14228, Apr. 1, 1983, as amended at 48 FR 30114, June 30, 1983]

Subpart D—Changes to Permit

§ 270.40 Transfer of permits.

(a) A permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued (under § 270.40(b) or § 270.41(b)(2)) to identify the new permittee and incorporate such other requirements as may be necessary under the appropriate Act.

(b) Changes in the ownership or operational control of a facility may be made as a Class 1 modification with prior written approval of the Director in accordance with § 270.42. The new owner or operator must submit a revised permit application no later than 90 days prior to the scheduled change. A written agreement containing a specific date for transfer of permit responsibility between the current and new permittees must also be submitted to the Director. When a transfer of ownership or operational control occurs, the old owner or operator shall comply with the requirements of 40 CFR Part 264, Subpart H (Financial Requirements) until the new owner or operator has demonstrated that he or she is complying with the requirements of that Subpart. The new owner or operator must demonstrate compliance with Subpart H requirements within six months of the date of the change of ownership or operational control of the facility. Upon demonstration to the Director by the new owner or operator of compliance with Subpart H, the Director shall notify the old owner or operator that he or she no longer needs to comply with Subpart H as of the date of demonstration.

[53 FR 37935, Sept. 28, 1988]

§ 270.41 Modification or revocation and reissuance of permits.

When the Director receives any information (for example, inspects the facility, receives information submitted by the permittee as required in the permit (see § 270.30), receives a request for revocation and reissuance under § 124.5 or conducts a review of the permit file), he or she may determine whether one or more of the causes listed in paragraphs (a) and (b) of this section for modification, or revocation and reissuance or both exist. If cause exists, the Director may modify or revoke and reissue the permit accordingly, subject to the limitations of paragraph (c) of this section, and may request an updated application if necessary. When a permit is modified, only the conditions subject to modification are reopened. If a permit is revoked and reissued, the entire permit is reopened and subject to revision and the permit is reissued for a new term. (See 40 CFR 124.5(c)(2).) If cause does not exist under this section, the Director shall not modify or revoke and reissue the permit, except on request of the permittee. If a permit modification is requested by the permittee, the Director shall approve or deny the request according to the procedures of 40 CFR 270.42. Otherwise, a draft permit must be prepared and other procedures in Part 124 (or procedures of an authorized State program) followed.

(a) *Causes for modification.* The following are causes for modification, but not revocation and reissuance, of permits; the following may be causes for revocation and reissuance, as well as modification, when the permittee requests or agrees.

(1) *Alterations.* There are material and substantial alterations or additions to the permitted facility or activity which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit.

(2) *Information.* The Director has received information. Permits may be modified during their terms for this cause only if the information was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and would have justified the application of different permit conditions at the time of issuance.

(3) *New statutory requirements or regulations.* The standards or regulations on which the permit was based have been changed by statute, through promulgation of new or amended standards or regulations, or by judicial decision after the permit was issued.

(4) *Compliance schedules.* The Director determines good cause exists for modification of a compliance schedule, such as an act of God, strike, flood, or materials shortage or other events over which the permittee has little or no control and for which there is no reasonably available remedy.

(5) Notwithstanding any other provision in this section, when a permit for a land disposal facility is reviewed by the Director under § 270.50(d), the Director shall modify the permit as necessary to assure that the facility continues to comply with the currently applicable requirements in Parts 124, 260 through 266, and 270.

(b) *Causes for modification or revocation and reissuance.* The following are causes to modify or, alternatively, revoke and reissue a permit:

(1) Cause exists for termination under § 270.43, and the Director determines that modification or revocation and reissuance is appropriate.

(2) The Director has received notification (as required in the permit, see § 270.30(l)(3)) of a proposed transfer of the permit.

(c) *Facility siting.* Suitability of the facility location will not be considered at the time of permit modification or revocation and reissuance unless new information or standards indicate that a threat to human health or the environmental exists which was unknown at the time of permit issuance.

[48 FR 14228, Apr. 1, 1983, as amended at 48 FR 30114, June 30, 1983; 50 FR 28752, July

1985; 52 FR 45799, Dec. 1, 1987; 53 FR 7936, Sept. 28, 1988]

§ 270.42 Permit modification at the request of the permittee.

(a) *Class 1 modifications.* (1) Except s provided in paragraph (a)(2) of this ection, the permittee may put into ffect Class 1 modifications listed in ppendix I of this section under the ollowing conditions:

(i) The permittee must notify the irector concerning the modification y certified mail or other means that stablish proof of delivery within 7 alendar days after the change is put nto effect. This notice must specify he changes being made to permit conitions or supporting documents refernced by the permit and must explain hy they are necessary. Along with he notice, the permittee must provide he applicable information required by § 270.13 through 270.21, 270.62, and 70.63.

(ii) The permittee must send a otice of the modification to all perons on the facility mailing list, mainined by the Director in accordance ith 40 CFR 124.10(c)(viii), and the ppropriate units of State and local overnment, as specified in 40 CFR 24.10(c)(ix). This notification must be ade within 90 calendar days after he change is put into effect. For the lass I modifications that require rior Director approval, the notificaon must be made within 90 calendar ays after the Director approves the equest.

(iii) Any person may request the Dictor to review, and the Director may r cause reject, any Class 1 modificaon. The Director must inform the ermittee by certified mail that a lass 1 modification has been rejected, xplaining the reasons for the rejecon. If a Class 1 modification has been ejected, the permittee must comply ith the original permit conditions.

(2) Class 1 permit modifications entified in Appendix I by an asterisk ay be made only with the prior writn approval of the Director.

(3) For a Class 1 permit modificaon, the permittee may elect to follow e procedures in § 270.42(b) for Class modifications instead of the Class 1 ocedures. The permittee must inform the Director of this decision in the notice required in § 270.42(b)(1).

(b) *Class 2 modifications.* (1) For Class 2 modifications, listed in Appendix I of this section, the permittee must submit a modification request to the Director that:

(i) Describes the exact change to be made to the permit conditions and supporting documents referenced by the permit;

(ii) Identifies that the modification is a Class 2 modification;

(iii) Explains why the modification is needed; and

(iv) Provides the applicable information required by §§ 270.13 through 270.21, 270.62, and 270.63.

(2) The permittee must send a notice of the modification request to all persons on the facility mailing list maintained by the Director and to the appropriate units of State and local government as specified in 40 CFR 124.10(c)(ix) and must publish this notice in a major local newspaper of general circulation. This notice must be mailed and published within 7 days before or after the date of submission of the modification request, and the permittee must provide to the Director evidence of the mailing and publication. The notice must include:

(i) Announcement of a 60-day comment period, in accordance with § 270.42(b)(5), and the name and address of an Agency contact to whom comments must be sent;

(ii) Announcement of the date, time, and place for a public meeting held in accordance with § 270.42(b)(4);

(iii) Name and telephone number of the permittee's contact person;

(iv) Name and telephone number of an Agency contact person;

(v) Location where copies of the modification request and any supporting documents can be viewed and copied; and

(vi) The following statement: "The permittee's compliance history during the life of the permit being modified is available from the Agency contact person."

(3) The permittee must place a copy of the permit modification request and supporting documents in a location accessible to the public in the vicinity of the permitted facility.

best copy available

(4) The permittee must hold a public meeting no earlier than 15 days after the publication of the notice required in paragraph (b)(2) of this section and no later than 15 days before the close of the 60-day comment period. The meeting must be held to the extent practicable in the vicinity of the permitted facility.

(5) The public shall be provided 60 days to comment on the modification request. The comment period will begin on the date the permittee publishes the notice in the local newspaper. Comments should be submitted to the Agency contact identified in the public notice.

(6)(i) No later than 90 days after receipt of the notification request, the Director must:

(A) Approve the modification request, with or without changes, and modify the permit accordingly;

(B) Deny the request;

(C) Determine that the modification request must follow the procedures in § 270.42(c) for Class 3 modifications for the following reasons:

(*1*) There is significant public concern about the proposed modification; or

(*2*) The complex nature of the change requires the more extensive procedures of Class 3.

(D) Approve the request, with or without changes, as a temporary authorization having a term of up to 180 days, or

(E) Notify the permittee that he or she will decide on the request within the next 30 days.

(ii) If the Director notifies the permittee of a 30-day extension for a decision, the Director must, no later than 120 days after receipt of the modification request:

(A) Approve the modification request, with or without changes, and modify the permit accordingly;

(B) Deny the request; or

(C) Determine that the modification request must follow the procedures in § 270.42(c) for Class 3 modifications for the following reasons:

(*1*) There is significant public concern about the proposed modification; or

(*2*) The complex nature of the change requires the more extensive procedures of Class 3.

(D) Approve the request, with or without changes, as a temporary authorization having a term of up to 180 days.

(iii) If the Director fails to make one of the decisions specified in paragraph (b)(6)(ii) of this section by the 120th day after receipt of the modification request, the permittee is automatically authorized to conduct the activities described in the modification request for up to 180 days, without formal Agency action. The authorized activities must be conducted as described in the permit modification request and must be in compliance with all appropriate standards of 40 CFR Part 265. If the Director approves, with or without changes, or denies the modification request during the term of the temporary or automatic authorization provided for in paragraphs (b)(6) (i), (ii), or (iii) of this section, such action cancels the temporary or automatic authorization.

(iv)(A) In the case of an automatic authorization under paragraph (b)(6)(iii) of this section, or a temporary authorization under paragraph (b)(6) (i)(D) or (ii)(D) of this section, if the Director has not made a final approval or denial of the modification request by the date 50 days prior to the end of the temporary or automatic authorization, the permittee must within seven days of that time send a notification to persons on the facility mailing list, and make a reasonable effort to notify other persons who submitted written comments on the modification request, that:

(*1*) The permittee has been authorized temporarily to conduct the activities described in the permit modification request, and

(*2*) Unless the Director acts to give final approval or denial of the request by the end of the authorization period, the permittee will receive authorization to conduct such activities for the life of the permit.

(B) If the owner/operator fails to notify the public by the date specified in paragraph (b)(6)(iv)(A) of this section, the effective date of the permanent authorization will be deferred until 50 days after the owner/operator notifies the public.

(v) Except as provided in paragraph (b)(6)(vii) of this section, if the Director does not finally approve or deny a modification request before the end of the automatic or temporary authorization period or reclassify the modification as a Class 3, the permittee is authorized to conduct the activities described in the permit modification request for the life of the permit unless modified later under § 270.41 or § 270.42. The activities authorized under this paragraph must be conducted as described in the permit modification request and must be in compliance with all appropriate standards of 40 CFR Part 265.

(vi) In making a decision to approve or deny a modification request, including a decision to issue a temporary authorization or to reclassify a modification as a Class 3, the Director must consider all written comments submitted to the Agency during the public comment period and must respond in writing to all significant comments in his or her decision.

(vii) With the written consent of the permittee, the Director may extend indefinitely or for a specified period the time periods for final approval or denial of a modification request or for reclassifying a modification as a Class .

(7) The Director may deny or change the terms of a Class 2 permit modification request under paragraphs (b)(6) (i) through (iii) of this section for the following reasons:

(i) The modification request is incomplete;

(ii) The requested modification does not comply with the appropriate requirements of 40 CFR Part 264 or other applicable requirements; or

(iii) The conditions of the modification fail to protect human health and the environment.

(8) The permittee may perform any construction associated with a Class 2 permit modification request beginning 0 days after the submission of the request unless the Director establishes a later date for commencing construction and informs the permittee in writing before day 60.

(c) *Class 3 modifications.* (1) For Class 3 modifications listed in Appendix I of this section, the permittee must submit a modification request to the Director that:

(i) Describes the exact change to be made to the permit conditions and supporting documents referenced by the permit;

(ii) Identifies that the modification is a Class 3 modification;

(iii) Explains why the modification is needed; and

(iv) Provides the applicable information required by 40 CFR 270.13 through 270.21, 270.62 and 270.63.

(2) The permittee must send a notice of the modification request to all persons on the facility mailing list maintained by the Director and to the appropriate units of State and local government as specified in 40 CFR 124.10(c)(ix) and must publish this notice in a major local newspaper of general circulation. This notice must be mailed and published within seven days before or after the date of submission of the modification request, and the permittee must provide to the Director evidence of the mailing and publication. The notice must include:

(i) Announcement of a 60-day comment period, and a name and address of an Agency contact to whom comments must be sent;

(ii) Announcement of the date, time, and place for a public meeting on the modification request, in accordance with § 270.42(c)(4);

(iii) Name and telephone number of the permittee's contact person;

(iv) Name and telephone number of an Agency contact person;

(v) Location where copies of the modification request and any supporting documents can be viewed and copied; and

(vi) The following statement: "The permittee's compliance history during the life of the permit being modified is available from the Agency contact person."

(3) The permittee must place a copy of the permit modification request and supporting documents in a location accessible to the public in the vicinity of the permitted facility.

(4) The permittee must hold a public meeting no earlier than 15 days after

the publication of the notice required in paragraph (c)(2) of this section and no later than 15 days before the close of the 60-day comment period. The meeting must be held to the extent practicable in the vicinity of the permitted facility.

(5) The public shall be provided at least 60 days to comment on the modification request. The comment period will begin on the date the permittee publishes the notice in the local newspaper. Comments should be submitted to the Agency contact identified in the notice.

(6) After the conclusion of the 60-day comment period, the Director must grant or deny the permit modification request according to the permit modification procedures of 40 CFR Part 124. In addition, the Director must consider and respond to all significant written comments received during the 60-day comment period.

(d) *Other modifications.* (1) In the case of modifications not explicitly listed in Appendix I of this section, the permittee may submit a Class 3 modification request to the Agency, or he or she may request a determination by the Director that the modification should be reviewed and approved as a Class 1 or Class 2 modification. If the permittee requests that the modification be classified as a Class 1 or 2 modification, he or she must provide the Agency with the necessary information to support the requested classification.

(2) The Director shall make the determination described in paragraph (d)(1) of this section as promptly as practicable. In determining the appropriate class for a specific modification, the Director shall consider the similarity of the modification to other modifications codified in Appendix I and the following criteria:

(i) Class 1 modifications apply to minor changes that keep the permit current with routine changes to the facility or its operation. These changes do no substantially alter the permit conditions or reduce the capacity of the facility to protect human health or the environment. In the case of Class 1 modifications, the Director may require prior approval.

(ii) Class 2 modifications apply to changes that are necessary to enable a permittee to respond, in a timely manner, to,

(A) Common variations in the types and quantities of the wastes managed under the facility permit,

(B) Technological advancements, and

(C) Changes necessary to comply with new regulations, where these changes can be implemented without substantially changing design specifications or management practices in the permit.

(iii) Class 3 modifications substantially alter the facility or its operation.

(e) *Temporary authorizations.* (1) Upon request of the permittee, the Director may, without prior public notice and comment, grant the permittee a temporary authorization in accordance with this subsection. Temporary authorizations must have a term of not more than 180 days.

(2)(i) The permittee may request a temporary authorization for:

(A) Any Class 2 modification meeting the criteria in paragraph (e)(3)(ii) of this section, and

(B) Any Class 3 modification that meets the criteria in paragraph (3)(ii) (A) or (B) of this section; or that meets the criteria in paragraphs (3)(ii) (C) through (E) of this section and provides improved management or treatment of a hazardous waste already listed in the facility permit.

(ii) The temporary authorization request must include:

(A) A description of the activities to be conducted under the temporary authorization;

(B) An explanation of why the temporary authorization is necessary; and

(C) Sufficient information to ensure compliance with 40 CFR Part 264 standards.

(iii) The permittee must send a notice about the temporary authorization request to all persons on the facility mailing list maintained by the Director and to appropriate units of State and local governments as specified in 40 CFR 124.10(c)(ix). This notification must be made within seven days of submission of the authorization request.

3) The Director shall approve or
ny the temporary authorization as
ckly as practical. To issue a tempo-
y authorization, the Director must
d:

i) The authorized activities are in
npliance with the standards of 40
R Part 264.

ii) The temporary authorization is
essary to achieve one of the follow-
objectives before action is likely to
taken on a modification request:

A) To facilitate timely implementa-
n of closure or corrective action ac-
ties;

B) To allow treatment or storage in
ks or containers of restricted
stes in accordance with 40 CFR
t 268;

C) To prevent disruption of ongoing
ste management activities;

D) To enable the permittee to re-
nd to sudden changes in the types
quantities of the wastes managed
der the facility permit; or

E) To facilitate other changes to
tect human health and the envi-
ment.

i) A temporary authorization may
reissued for one additional term of
to 180 days provided that the per-
tee has requested a Class 2 or 3
mit modification for the activity
ered in the temporary authoriza-
n, and:

) The reissued temporary authori-
ion constitutes the Director's deci-
n on a Class 2 permit modification
accordance with paragraph
6)(i)(D) or (ii)(D) of this section, or

i) The Director determines that
reissued temporary authorization
olving a Class 3 permit modifica-
n request is warranted to allow the
horized activities to continue while
modification procedures of para-
ph (c) of this section are conduct-

) *Public notice and appeals of*
mit modification decisions. (1) The
ector shall notify persons on the
lity mailing list and appropriate
ts of State and local government
hin 10 days of any decision under
section to grant or deny a Class 2
3 permit modification request. The
ector shall also notify such persons
hin 10 days after an automatic au-
rization for a Class 2 modification goes into effect under § 270.42(b)(6)(iii) or (v).

(2) The Director's decision to grant or deny a Class 2 or 3 permit modification request under this section may be appealed under the permit appeal procedures of 40 CFR 124.19.

(3) An automatic authorization that goes into effect under § 270.42(b)(6)(iii) or (v) may be appealed under the permit appeal procedures of 40 CFR 124.19; however, the permittee may continue to conduct the activities pursuant to the automatic authorization until the appeal has been granted pursuant to § 124.19(c), notwithstanding the provisions of § 124.15(b).

(g) *Newly listed or identified wastes.* (1) The permittee is authorized to continue to manage wastes listed or identified as hazardous under 40 CFR Part 261 if he or she:

(i) Was in existence as a hazardous waste facility with respect to the newly listed or characterized waste on the effective date of the final rule listing or identifying the waste;

(ii) Submits a Class 1 modification request on or before the date on which the waste becomes subject to the new requirements;

(iii) Is in compliance with the standards of 40 CFR Part 265;

(iv) In the case of Classes 2 and 3 modifications, also submits a complete permit modification request within 180 days after the effective date of the rule listing or identifying the waste; and

(v) In the case of land disposal units, certifies that such unit is in compliance with all applicable Part 265 ground-water monitoring and financial responsibility requirements on the date 12 months after the effective date of the rule identifying or listing the waste as hazardous. If the owner or operator fails to clarify compliance with these requirements, he or she shall lose authority to operate under this section.

(2) New wastes or units added to a facility's permit under this subsection do not constitute expansions for the purpose of the 25 percent capacity expansion limit for Class 2 modifications.

(h) *Permit modification list.* The Director must maintain a list of all approved permit modifications and must publish a notice once a year in a State-wide newspaper that an updated list is available for review.

APPENDIX I TO § 270.42—CLASSIFICATION OF PERMIT MODIFICATION

Modifications	Class
A. *General Permit Provisions*	
1. Administrative and informational changes	1
2. Correction of typographical errors	1
3. Equipment replacement or upgrading with functionally equivalent components (e.g., pipes, valves, pumps, conveyors, controls)	1
4. Changes in the frequency of or procedures for monitoring, reporting, sampling, or maintenance activities by the permittee:	
a. To provide for more frequent monitoring, reporting, sampling, or maintenance	1
b. Other changes	2
5. Schedule of compliance:	
a. Changes in interim compliance dates, with prior approval of the Director	[1]1
b. Extension of final compliance date	3
6. Changes in expiration date of permit to allow earlier permit termination, with prior approval of the Director	[1]1
7. Changes in ownership or operational control of a facility, provided the procedures of § 270.40(b) are followed	[1]1
B. *General Facility Standards*	
1. Changes to waste sampling or analysis methods:	
a. To conform with agency guidance or regulations	1
b. To incorporate changes associated with F039 (multi-source leachate) sampling or analysis methods	1
c. Other changes	2
2. Changes to analytical quality assurance/control plan:	
a. To conform with agency guidance or regulations	1
b. Other changes	2
3. Changes in procedures for maintaining the operating record	1
4. Changes in frequency or content of inspection schedules	2
5. Changes in the training plan:	
a. That affect the type or decrease the amount of training given to employees	2
b. Other changes	1
6. Contingency plan:	
a. Changes in emergency procedures (i.e., spill or release response procedures)	2
b. Replacement with functionally equivalent equipment, upgrade, or relocate emergency equipment listed	1
c. Removal of equipment from emergency equipment list	2
d. Changes in name, address, or phone number of coordinators or other persons or agencies identified in the plan	1
Note: When a permit modification (such as introduction of a new unit) requires a change in facility plans or other general facility standards, that change shall be reviewed under the same procedures as the permit modification.	
C. *Ground-Water Protection*	
1. Changes to wells:	
a. Changes in the number, location, depth, or design of upgradient or downgradient wells of permitted ground-water monitoring system	2
b. Replacement of an existing well that has been damaged or rendered inoperable, without change to location, design, or depth of the well	1
2. Changes in ground-water sampling or analysis procedures or monitoring schedule, with prior approval of the Director	[1]1
3. Changes in statistical procedure for determining whether a statistically significant change in ground-water quality between upgradient and downgradient wells has occurred, with prior approval of the Director	[1]1
4. Changes in point of compliance	[1]2
5. Changes in indicator parameters, hazardous constituents, or concentration limits (including ACLs):	
a. As specified in the groundwater protection standard	3
b. As specified in the detection monitoring program	2
6. Changes to a detection monitoring program as required by § 264.98(j), unless otherwise specified in this appendix	2
7. Compliance monitoring program:	
a. Addition of compliance monitoring program as required by §§ 264.98(h)(4) and 264.99	3
b. Changes to a compliance monitoring program as required by § 264.99(k), unless otherwise specified in this appendix	2
8. Corrective action program:	
a. Addition of a corrective action program as required by §§ 264.99(i)(2) and 264.100	3
b. Changes to a corrective action program as required by § 264.100(h), unless otherwise specified in this Appendix	2
D. *Closure*	
1. Changes to the closure plan:	
a. Changes in estimate of maximum extent of operations or maximum inventory of waste on-site at any time during the active life of the facility, with prior approval of the Director	[1]1
b. Changes in the closure schedule for any unit, changes in the final closure schedule for the facility, or extension of the closure period, with prior approval of the Director	[1]1

Modifications	Class
c. Changes in the expected year of final closure, where other permit conditions are not changed, with prior approval of the Director	[1] 1
d. Changes in procedures for decontamination of facility equipment or structures, with prior approval of the Director	[1] 1
e. Changes in approved closure plan resulting from unexpected events occurring during partial or final closure, unless otherwise specified in this appendix	2
f. Extension of the closure period to allow a landfill, surface impoundment or land treatment unit to receive non-hazardous wastes after final receipt of hazardous wastes under § 264.113 (d) and (e)	2
2. Creation of a new landfill unit as part of closure	3
3. Addition of the following new units to be used temporarily for closure activities:	
a. Surface impoundments	3
b. Incinerators	3
c. Waste piles that do not comply with § 264.250(c)	3
d. Waste piles that comply with § 264.250(c)	2
e. Tanks or containers (other than specified below)	2
f. Tanks used for neutralization, dewatering, phase separation, or component separation, with prior approval of the Director	[1] 1
E. *Post-Closure*	
1. Changes in name, address, or phone number of contact in post-closure plan	1
2. Extension of post-closure care period	2
3. Reduction in the post-closure care period	3
4. Changes to the expected year of final closure, where other permit conditions are not changed	1
5. Changes in post-closure plan necessitated by events occurring during the active life of the facility, including partial and final closure	2
F. *Containers*	
1. Modification or addition of container units:	
a. Resulting in greater than 25% increase in the facility's container storage capacity, except as provided in F(1)(c) and F(4)(a) below	3
b. Resulting in up to 25% increase in the facility's container storage capacity, except as provided in F(1)(c) and F(4)(a) below	2
c. Or treatment processes necessary to treat wastes that are restricted from land disposal to meet some or all of the applicable treatment standards or to treat wastes to satisfy (in whole or in part) the standard of "use of practically available technology that yields the greatest environmental benefit" contained in § 268.8(a)(2)(ii), with prior approval of the Director. This modification may also involve addition of new waste codes or narrative descriptions of wastes. It is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027, and 028)	[1] 1
2.	
a. Modification of a container unit without increasing the capacity of the unit	2
b. Addition of a roof to a container unit without alteration of the containment system	1
3. Storage of different wastes in containers, except as provided in (F)(4) below:	
a. That require additional or different management practices from those authorized in the permit	3
b. That do not require additional or different management practices from those authorized in the permit	2
Note: See § 270.42(g) for modification procedures to be used for the management of newly listed or identified wastes.	
4. Storage of treatment of different wastes in containers:	
a. That require addition of units or change in treatment process or management standards, provided that the wastes are restricted from land disposal and are to be treated to meet some or all of the applicable treatment standards, or that are to be treated to satisfy (in whole or in part) the standard of "use of practically available technology that yields the greatest environmental benefit" contained in § 268.8(a)(2)(ii). This modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027, and 028)	1
b. That do not require the addition of units or a change in the treatment process or management standards, and provided that the units have previously received wastes of the same type (e.g., incinerator scrubber water). This modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027, and 028)	[1] 1
G. *Tanks*	
1:	
a. Modification or addition of tank units resulting in greater than 25% increase in the facility's tank capacity, except as provided in G(1)(c), G(1)(d), and G(1)(e) below	3
b. Modification or addition of tank units resulting in up to 25% increase in the facility's tank capacity, except as provided in G(1)(d) and G(1)(e) below	2
c. Addition of a new tank that will operate for more than 90 days using any of the following physical or chemical treatment technologies: neutralization, dewatering, phase separation, or component separation	2
d. After prior approval of the Director, addition of a new tank that will operate for up to 90 days using any of the following physical or chemical treatment technologies: neutralization, dewatering, phase separation, or component separation	[1] 1
e. Modification or addition of tank units or treatment processes necessary to treat wastes that are restricted from land disposal to meet some or all of the applicable treatment standards or to treat wastes to satisfy (in whole or in part) the standard of "use of practically available technology that yields the greatest environmental benefit" contained in § 268.8(a)(2)(ii), with prior approval of the Director. This modification may also involve addition of new waste codes. It is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027, and 028)	[1] 1
2. Modification of a tank unit or secondary containment system without increasing the capacity of the unit	2

Modifications	Class
3. Replacement of a tank with a tank that meets the same design standards and has a capacity within +/− 10% of the replaced tank provided —The capacity difference is no more than 1500 gallons, —The facility's permitted tank capacity is not increased, and —The replacement tank meets the same conditions in the permit.	1
4. Modification of a tank management practice	2
5. Management of different wastes in tanks:	
a. That require additional or different management practices, tank design, different fire protection specifications, or significantly different tank treatment process from that authorized in the permit, except as provided in (G)(5)(c) below	3
b. That do not require additional or different management practices, tank design, different fire protection specifications, or significantly different tank treatment process than authorized in the permit, except as provided in (G)(5)(d)	2
c. That require addition of units or change in treatment processes or management standards, provided that the wastes are restricted from land disposal and are to be treated to meet some or all of the applicable treatment standards or that are to be treated to satisfy (in whole or in part) the standard of "use of practically available technology that yields the greatest environmental benefit" contained in § 268.8(a)(2)(ii). The modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027, and 028)	[1]1
d. That do not require the addition of units or a change in the treatment process or management standards, and provided that the units have previously received wastes of the same type (e.g., incinerator scrubber water). This modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027, and 028)	1
Note: See § 270.42(g) for modification procedures to be used for the management of newly listed or identified wastes.	
H. *Surface Impoundments*	
1. Modification or addition of surface impoundment units that result in increasing the facility's surface impoundment storage or treatment capacity	3
2. Replacement of a surface impoundment unit	3
3. Modification of a surface impoundment unit without increasing the facility's surface impoundment storage or treatment capacity and without modifying the unit's liner, leak detection system, or leachate collection system	2
4. Modification of a surface impoundment management practice	2
5. Treatment, storage, or disposal of different wastes in surface impoundments:	
a. That require additional or different management practices or different design of the liner or leak detection system than authorized in the permit	3
b. That do not require additional or different management practices or different design of the liner or leak detection system than authorized in the permit	2
c. That are wastes restricted from land disposal that meet the applicable treatment standards or that are treated to satisfy the standard of "use of practically available technology that yields the greatest environmental benefit" contained in § 269.8(a)(2)(ii), and provided that the unit meets the minimum technological requirements stated in § 268.5(h)(2). This modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027, and 028)	1
d. That are residues from wastewater treatment or incineration, provided that disposal occurs in a unit that meets the minimum technological requirements stated in §268.5(h)(2), and provided further that the surface impoundment has previously received wastes of the same type (for example, incinerator scrubber water). This modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027, and 028)	1
Note: See § 270.42(g) for modification procedures to be used for the management of newly listed or identified wastes	
I. *Enclosed Waste Piles*. For all waste piles except those complying with § 264.250(c), modifications are treated the same as for a landfill. The following modifications are applicable only to waste piles complying with § 264.250(c).	
1. Modification or addition of waste pile units:	
a. Resulting in greater than 25% increase in the facility's waste pile storage or treatment capacity	3
b. Resulting in up to 25% increase in the facility's waste pile storage or treatment capacity	2
2. Modification of waste pile unit without increasing the capacity of the unit	2
3. Replacement of a waste pile unit with another waste pile unit of the same design and capacity and meeting all waste pile conditions in the permit	1
4. Modification of a waste pile management practice	2
5. Storage or treatment of different wastes in waste piles:	
a. That require additional or different management practices or different design of the unit	3
b. That do not require additional or different management practices or different design of the unit	2
Note: See § 270.42(g) for modification procedures to be used for the management of newly listed or identified wastes.	
J. *Landfills and Unenclosed Waste Piles*	
1. Modification or addition of landfill units that result in increasing the facility's disposal capacity	3
2. Replacement of a landfill	3
3. Addition or modification of a liner, leachate collection system, leachate detection system, run-off control, or final cover system	3
4. Modification of a landfill unit without changing a liner, leachate collection system, leachate detection system, run-off control, or final cover system	2
5. Modification of a landfill management practice	2
6. Landfill different wastes:	
a. That require additional or different management practices, different design of the liner, leachate collection system, or leachate detection system	3

Modifications	Class
b. That do not require additional or different management practices, different design of the liner, leachate collection system, or leachate detection system	2
c. That are wastes restricted from land disposal that meet the applicable treatment standards or that are treated to satisfy the standard of "use of practically available technology that yields the greatest environmental benefit" contained in § 268.8(a)(2)(ii), and provided that the landfill unit meets the minimum technological requirements stated in § 268.5(h)(2). This modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027, and 028)	1
d. That are residues from wastewater treatment or incineration, provided that disposal occurs in a landfill unit that meets the minimum technological requirements stated in §268.5(h)(2), and provided further that the landfill has previously received wastes of the same type (for example, incinerator ash). This modification is not applicable to dioxin-containing wastes (F020, 021, 022, 023, 026, 027, and 028)	1
Note: See § 270.42(g) for modification procedures to be used for the management of newly listed or identified wastes.	
K. *Land Treatment*	
1. Lateral expansion of or other modification of a land treatment unit to increase areal extent	3
2. Modification of run-on control system	2
3. Modify run-off control system	3
4. Other modifications of land treatment unit component specifications or standards required in permit	2
5. Management of different wastes in land treatment units:	
a. That require a change in permit operating conditions or unit design specifications	3
b. That do not require a change in permit operating conditions or unit design specifications	2
Note: See § 270.42(g) for modification procedures to be used for the management of newly listed or identified wastes.	
6. Modification of a land treatment unit management practice to:	
a. Increase rate or change method of waste application	3
b. Decrease rate of waste application	1
7. Modification of a land treatment unit management practice to change measures of pH or moisture content, or to enhance microbial or chemical reactions	2
8. Modification of a land treatment unit management practice to grow food chain crops, to add to or replace existing permitted crops with different food chain crops, or to modify operating plans for distribution of animal feeds resulting from such crops	3
9. Modification of operating practice due to detection of releases from the land treatment unit pursuant to § 264.278(g)(2)	3
10. Changes in the unsaturated zone monitoring system, resulting in a change to the location, depth, number of sampling points, or replace unsaturated zone monitoring devices or components of devices with devices or components that have specifications different from permit requirements	3
11. Changes in the unsaturated zone monitoring system that do not result in a change to the location, depth, number of sampling points, or that replace unsaturated zone monitoring devices or components of devices with devices or components having specifications different from permit requirements	2
12. Changes in background values for hazardous constituents in soil and soil-pore liquid	2
13. Changes in sampling, analysis, or statistical procedure	2
14. Changes in land treatment demonstration program prior to or during the demonstration	2
15. Changes in any condition specified in the permit for a land treatment unit to reflect results of the land treatment demonstration, provided performance standards are met, and the Director's prior approval has been received	[1] 1
16. Changes to allow a second land treatment demonstration to be conducted when the results of the first demonstration have not shown the conditions under which the wastes can be treated completely, provided the conditions for the second demonstration are substantially the same as the conditions for the first demonstration and have received the prior approval of the Director	[1] 1
17. Changes to allow a second land treatment demonstration to be conducted when the results of the first demonstration have not shown the conditions under which the wastes can be treated completely, where the conditions for the second demonstration are not substantially the same as the conditions for the first demonstration	3
18. Changes in vegetative cover requirements for closure	2
Incinerators	
1. Changes to increase by more than 25% any of the following limits authorized in the permit: A thermal feed rate limit, a waste feed rate limit, or an organic chlorine feed rate limit. The Director will require a new trial burn to substantiate compliance with the regulatory performance standards unless this demonstration can be made through other means	3
2. Changes to increase by up to 25% any of the following limits authorized in the permit: A thermal feed rate limit, a waste feed limit, or an organic chlorine feed rate limit. The Director will require a new trial burn to substantiate compliance with the regulatory performance standards unless this demonstration can be made through other means	2
3. Modification of an incinerator unit by changing the internal size or geometry of the primary or secondary combustion units, by adding a primary or secondary combustion unit, by substantially changing the design of any component used to remove HCl or particulate from the combustion gases, or by changing other features of the incinerator that could affect its capability to meet the regulatory performance standards. The Director will require a new trial burn to substantiate compliance with the regulatory performance standards unless this demonstration can be made through other means	3

Modifications	Class
4. Modification of an incinerator unit in a manner that would not likely affect the capability of the unit to meet the regulatory performance standards but which would change the operating conditions or monitoring requirements specified in the permit. The Director may require a new trial burn to demonstrate compliance with the regulatory performance standards	2
5. Operating requirements:	
a. Modification of the limits specified in the permit for minimum combustion gas temperature, minimum combustion gas residence time, or oxygen concentration in the secondary combustion chamber. The Director will require a new trial burn to substantiate compliance with the regulatory performance standards unless this demonstration can be made through other means	3
b. Modification of any stack gas emission limits specified in the permit, or modification of any conditions in the permit concerning emergency shutdown or automatic waste feed cutoff procedures or controls	3
c. Modification of any other operating condition or any inspection or recordkeeping requirement specified in the permit	2
6. Incineration of different wastes:	
a. If the waste contains a POHC that is more difficult to incinerate than authorized by the permit or if incineration of the waste requires compliance with different regulatory performance standards than specified in the permit. The Director will require a new trial burn to substantiate compliance with the regulatory performance standards unless this demonstration can be made through other means	3
b. If the waste does not contain a POHC that is more difficult to incinerate than authorized by the permit and if incineration of the waste does not require compliance with different regulatory performance standards than specified in the permit	2
Note: See § 270.42(g) for modification procedures to be used for the management of newly listed or identified wastes.	
7. Shakedown and trial burn:	
a. Modification of the trial burn plan or any of the permit conditions applicable during the shakedown period for determining operational readiness after construction, the trial burn period, or the period immediately following the trial burn	2
b. Authorization of up to an additional 720 hours of waste incineration during the shakedown period for determining operational readiness after construction, with the prior approval of the Director	[1]1
c. Changes in the operating requirements set in the permit for conducting a trial burn, provided the change is minor and has received the prior approval of the Director	[1]1
d. Changes in the ranges of the operating requirements set in the permit to reflect the results of the trial burn, provided the change is minor and has received the prior approval of the Director	[1]1
8. Substitution of an alternate type of fuel that is not specified in the permit	1

[1] Class 1 modifications requiring prior Agency approval.

[53 FR 37936, Sept. 28, 1988, as amended at 53 FR 37939, Sept. 28, 1988; 53 FR 41649, October 24, 1988; 54 FR 9607, Mar. 7, 1989; 54 FR 33398, Aug. 14, 1989; 55 FR 22719, June 1, 1990]

§ 270.43 Termination of permits.

(a) The following are causes for terminating a permit during its term, or for denying a permit renewal application:

(1) Noncompliance by the permittee with any condition of the permit;

(2) The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time; or

(3) A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination.

(b) The Director shall follow the applicable procedures in Part 124 or State procedures in terminating any permit under this section.

Subpart E—Expiration and Continuation of Permits

§ 270.50 Duration of permits.

(a) RCRA permits shall be effective for a fixed term not to exceed 10 years.

(b) Except as provided in § 270.51, the term of a permit shall not be extended by modification beyond the maximum duration specified in this section.

(c) The Director may issue any permit for a duration that is less than the full allowable term under this section.

(d) Each permit for a land disposal facility shall be reviewed by the Director five years after the date of permit issuance or reissuance and shall be modified as necessary, as provided in § 270.41.

[48 FR 14228, Apr. 1, 1983, as amended at 50 FR 28752, July 15, 1985]

0.51 Continuation of expiring permits.

) *EPA permits.* When EPA is the mit-issuing authority, the condi- s of an expired permit continue in e under 5 U.S.C. 558(c) until the ctive date of a new permit (see 4.15) if:

) The permittee has submitted a ely application under § 270.14 and applicable sections in §§ 270.15 ough 270.29 which is a complete der § 270.10(c)) application for a permit; and

) The Regional Administrator ough no fault of the permittee, s not issue a new permit with an ef- ive date under § 124.15 on or ore the expiration date of the pre- s permit (for example, when issu- e is impracticable due to time or re- rce constraints).

) *Effect.* Permits continued under section remain fully effective and rceable.

) *Enforcement.* When the permit- is not in compliance with the con- ons of the expiring or expired nit, the Regional Administrator choose to do any or all of the fol- ng:

) Initiate enforcement action based n the permit which has been con- ed;

) Issue a notice of intent to deny new permit under § 124.6. If the nit is denied, the owner or opera- would then be required to cease activities authorized by the contin- permit or be subject to enforce- t action for operating without a nit;

) Issue a new permit under Part with appropriate conditions; or

) Take other actions authorized by e regulations.

) *State continuation.* In a State an hazardous waste program au- ized under 40 CFR Part 271, if a nittee has submitted a timely and plete application under applicable e law and regulations, the terms conditions of an EPA-issued A permit continue in force nd the expiration date of the nit, but only until the effective of the State's issuance or denial State RCRA permit.

n Water Act (33 U.S.C. 1251 et seq.), Drinking Water Act (42 U.S.C. 300f et seq.), Clean Air Act (42 U.S.C. 7401 et seq.), Resource Conservation and Recovery Act (42 U.S.C. 6901 et seq.))

[48 FR 14228, Apr. 1, 1983, as amended at 48 FR 39622, Sept. 1, 1983]

Subpart F—Special Forms of Permits

§ 270.60 Permits by rule.

Notwithstanding any other provision of this part or Part 124, the following shall be deemed to have a RCRA permit if the conditions listed are met:

(a) *Ocean disposal barges or vessels.* The owner or operator of a barge or other vessel which accepts hazardous waste for ocean disposal, if the owner or operator:

(1) Has a permit for ocean dumping issued under 40 CFR Part 220 (Ocean Dumping, authorized by the Marine Protection, Research, and Sanctuaries Act, as amended, 33 U.S.C. 1420 *et seq.*);

(2) Complies with the conditions of that permit; and

(3) Complies with the following hazardous waste regulations:

(i) 40 CFR 264.11, Identification number;

(ii) 40 CFR 264.71, Use of manifest system;

(iii) 40 CFR 264.72, Manifest discrepancies;

(iv) 40 CFR 264.73(a) and (b)(1), Operating record;

(v) 40 CFR 264.75, Biennial report; and

(vi) 40 CFR 264.76, Unmanifested waste report.

(b) *Injection wells.* The owner or operator of an injection well disposing of hazardous waste, if the owner or operator:

(1) Has a permit for underground injection issued under Part 144 or 145; and

(2) Complies with the conditions of that permit and the requirements of § 144.14 (requirements for wells managing hazardous waste).

(3) For UIC permits issued after November 8, 1984:

(i) Complies with 40 CFR 264.101; and

(ii) Where the UIC well is the only unit at a facility which requires a RCRA permit, complies with 40 CFR 270.14(d).

(c) *Publicly owned treatment works.* The owner or operator of a POTW which accepts for treatment hazardous waste, if the owner or operator:

(1) Has an NPDES permit;

(2) Complies with the conditions of that permit; and

(3) Complies with the following regulations:

(i) 40 CFR 264.11, Identification number;

(ii) 40 CFR 264.71, Use of manifest system;

(iii) 40 CFR 264.72, Manifest discrepancies;

(iv) 40 CFR 264.73(a) and (b)(1), Operating record;

(v) 40 CFR 264.75, Biennial report;

(vi) 40 CFR 264.76, Unmanifested waste report; and

(vii) For NPDES permits issued after November 8, 1984, 40 CFR 264.101.

(4) If the waste meets all Federal, State, and local pretreatment requirements which would be applicable to the waste if it were being discharged into the POTW through a sewer, pipe, or similar conveyance.

(Approved by the Office of Management and Budget under control number 2050-0007)

[48 FR 14228, Apr. 1, 1983, as amended at 50 FR 28752, July 15, 1985; 52 FR 45799, Dec. 1, 1987]

§ 270.61 Emergency permits.

(a) Notwithstanding any other provision of this part or Part 124, in the event the Director finds an imminent and substantial endangerment to human health or the environment the Director may issue a temporary emergency permit: (1) To a non-permitted facility to allow treatment, storage, or disposal of hazardous waste or (2) to a permitted facility to allow treatment, storage, or disposal of a hazardous waste not covered by an effective permit.

(b) This emergency permit:

(1) May be oral or written. If oral, it shall be followed in five days by a written emergency permit;

(2) Shall not exceed 90 days in duration;

(3) Shall clearly specify the hazardous wastes to be received, and the manner and location of their treatment, storage, or disposal;

(4) May be terminated by the Director at any time without process if he or she determines that termination is appropriate to protect human health and the environment;

(5) Shall be accompanied by a public notice published under § 124.11(b) including:

(i) Name and address of the office granting the emergency authorization;

(ii) Name and location of the permitted HWM facility;

(iii) A brief description of the wastes involved;

(iv) A brief description of the action authorized and reasons for authorizing it; and

(v) Duration of the emergency permit; and

(6) Shall incorporate, to the extent possible and not inconsistent with the emergency situation, all applicable requirements of this part and 40 CFR Parts 264 and 266.

[48 FR 14228, Apr. 1, 1983, as amended at 48 FR 30114, June 30, 1983]

§ 270.62 Hazardous waste incinerator permits.

(a) For the purposes of determining operational readiness following completion of physical construction, the Director must establish permit conditions, including but not limited to allowable waste feeds and operating conditions, in the permit to a new hazardous waste incinerator. These permit conditions will be effective for the minimum time required to bring the incinerator to a point of operational readiness to conduct a trial burn, not to exceed 720 hours operating time for treatment of hazardous waste. The Director may extend the duration of this operational period once, for up to 720 additional hours, at the request of the applicant when good cause is shown. The permit may be modified to reflect the extension according to § 270.42 of this chapter.

(1) Applicants must submit a statement, with Part B of the permit application, which suggests the conditions necessary to operate in compliance with the performance standards of § 264.343 of this chapter during this period. This statement should include, at a minimum, restrictions on waste

onstituents, waste feed rates and the perating parameters identified in 264.345 of this chapter.

(2) The Director will review this tatement and any other relevant in- ormation submitted with Part B of he permit application and specify re- uirements for this period sufficient o meet the performance standards of 264.343 of this chapter based on his ngineering judgment.

(b) For the purposes of determining easibility of compliance with the per- ormance standards of § 264.343 of this hapter and of determining adequate perating conditions under § 264.345 f this chapter, the Director must es- blish conditions in the permit for a ew hazardous waste incinerator to be ffective during the trial burn.

(1) Applicants must propose a trial urn plan, prepared under paragraph)(2) of this section with a Part B of e permit application.

(2) The trial burn plan must include e following information:

(i) An analysis of each waste or mix- re of wastes to be burned which in- udes:

(A) Heat value of the waste in the rm and composition in which it will burned.

B) Viscosity (if applicable), or de- ription of the physical form of the aste.

C) An identification of any hazard- s organic constituents listed in Part 1, Appendix VIII of this chapter, ich are present in the waste to be rned, except that the applicant ed not analyze for constituents ted in Part 261, Appendix VIII, of is chapter which would reasonably t be expected to be found in the ste. The constituents excluded from alysis must be identified, and the sis for the exclusion stated. The ste analysis must rely on analytical hniques specified in "Test Methods the Evaluation of Solid Waste, ysical/Chemical Methods" (incor- ated by reference, see § 270.6), or er equivalent.

D) An approximate quantification the hazardous constituents identi- d in the waste, within the precision duced by the analytical methods cified in "Test Methods for the aluation of Solid Waste, Physical/Chemical Methods," (incorporated by reference, see § 270.6), or their equivalent.

(ii) A detailed engineering description of the incinerator for which the permit is sought including:

(A) Manufacturer's name and model number of incinerator (if available).

(B) Type of incinerator.

(C) Linear dimensions of the incinerator unit including the cross sectional area of combustion chamber.

(D) Description of the auxiliary fuel system (type/feed).

(E) Capacity of prime mover.

(F) Description of automatic waste feed cut-off system(s).

(G) Stack gas monitoring and pollution control equipment.

(H) Nozzle and burner design.

(I) Construction materials.

(J) Location and description of temperature, pressure, and flow indicating and control devices.

(iii) A detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.

(iv) A detailed test schedule for each waste for which the trial burn is planned including date(s), duration, quantity of waste to be burned, and other factors relevant to the Director's decision under paragraph (b)(5) of this section.

(v) A detailed test protocol, including, for each waste identified, the ranges of temperature, waste feed rate, combustion gas velocity, use of auxiliary fuel, and any other relevant parameters that will be varied to affect the destruction and removal efficiency of the incinerator.

(vi) A description of, and planned operating conditions for, any emission control equipment which will be used.

(vii) Procedures for rapidly stopping waste feed, shutting down the incinerator, and controlling emissions in the event of an equipment malfunction.

(viii) Such other information as the Director reasonably finds necessary to determine whether to approve the trial burn plan in light of the purposes of this paragraph and the criteria in paragraph (b)(5) of this section.

(3) The Director, in reviewing the trial burn plan, shall evaluate the sufficiency of the information provided and may require the applicant to supplement this information, if necessary, to achieve the purposes of this paragraph.

(4) Based on the waste analysis data in the trial burn plan, the Director will specify as trial Principal Organic Hazardous Constituents (POHCs), those constituents for which destruction and removal efficiencies must be calculated during the trial burn. These trial POHCs will be specified by the Director based on his estimate of the difficulty of incineration of the constituents identified in the waste analysis, their concentration or mass in the waste feed, and, for wastes listed in Part 261, Subpart D, of this chapter, the hazardous waste organic constituent or constituents identified in Appendix VII of that part as the basis for listing.

(5) The Director shall approve a trial burn plan if he finds that:

(i) The trial burn is likely to determine whether the incinerator performance standard required by § 264.343 of this chapter can be met;

(ii) The trial burn itself will not present an imminent hazard to human health or the environment;

(iii) The trial burn will help the Director to determine operating requirements to be specified under § 264.345 of this chapter; and

(iv) The information sought in paragraphs (b)(5) (i) and (ii) of this section cannot reasonably be developed through other means.

(6) During each approved trial burn (or as soon after the burn as is practicable), the applicant must make the following determinations:

(i) A quantitative analysis of the trial POHCs in the waste feed to the incinerator.

(ii) A quantitative analysis of the exhaust gas for the concentration and mass emissions of the trial POHCs, oxygen (O_2) and hydrogen chloride (HCl).

(iii) A quantitative analysis of the scrubber water (if any), ash residues, and other residues, for the purpose of estimating the fate of the trial POHCs.

(iv) A computation of destruction and removal efficiency (DRE), in accordance with the DRE formula specified in § 264.343(a) of this chapter.

(v) If the HCl emission rate exceeds 1.8 kilograms of HCl per hour (4 pounds per hour), a computation of HCl removal efficiency in accordance with § 264.343(b) of this chapter.

(vi) A computation of particulate emissions, in accordance with § 264.343(c) of this chapter.

(vii) An identification of sources of fugitive emissions and their means of control.

(viii) A measurement of average, maximum, and minimum temperatures and combustion gas velocity.

(ix) A continuous measurement of carbon monoxide (CO) in the exhaust gas.

(x) Such other information as the Director may specify as necessary to ensure that the trial burn will determine compliance with the performance standards in § 264.343 of this chapter and to establish the operating conditions required by § 264.345 of this chapter as necessary to meet that performance standard.

(7) The applicant must submit to the Director a certification that the trial burn has been carried out in accordance with the approved trial burn plan, and must submit the results of all the determinations required in paragraph (b)(6) of this section. This submission shall be made within 90 days of completion of the trial burn, or later if approved by the Director.

(8) All data collected during any trial burn must be submitted to the Director following the completion of the trial burn.

(9) All submissions required by this paragraph must be certified on behalf of the applicant by the signature of a person authorized to sign a permit application or a report under § 270.11.

(10) Based on the results of the trial burn, the Director shall set the operating requirements in the final permit according to § 264.345 of this chapter. The permit modification shall proceed according to § 270.42.

(c) For the purposes of allowing operation of a new hazardous waste incinerator following completion of the trial burn and prior to final modification of the permit conditions to reflect the trial burn results, the Director may establish permit conditions, including but not limited to allowable waste feeds and operating conditions sufficient to meet the requirements of § 264.345 of this chapter, in the permit to a new hazardous waste incinerator. These permit conditions will be effective for the minimum time required to complete sample analysis, data computation and submission of the trial burn results by the applicant, and modification of the facility permit by the Director.

(1) Applicants must submit a statement, with Part B of the permit application, which identifies the conditions necessary to operate in compliance with the performance standards of § 264.343 of this chapter, during this period. This statement should include, at a minimum, restrictions on waste constituents, waste feed rates, and the operating parameters in § 264.345 of this chapter.

(2) The Director will review this statement and any other relevant information submitted with Part B of the permit application and specify those requirements for this period most likely to meet the performance standards of § 264.343 of this chapter based on his engineering judgment.

(d) For the purpose of determining feasibility of compliance with the performance standards of § 264.343 of this chapter and of determining adequate operating conditions under § 264.345 of this chapter, the applicant for a permit for an existing hazardous waste incinerator must prepare and submit a trial burn plan and perform a trial burn in accordance with § 270.19(b) and paragraphs (b)(2) through (b)(9) of this section or, instead, submit other information as specified in § 270.19(c). Applicants submitting information under § 270.19(a) are exempt from compliance with §§ 264.343 and 264.345 and, therefore, are exempt from the requirement to conduct a trial burn. Applicants who submit trial burn plans and receive approval before submission of a permit application must complete the trial burn and submit the results, specified in paragraph (b)(6), with Part B of the permit application. If completion of this process conflicts with the date set for submission of the Part B application, the applicant must contact the Director to establish a later date for submission of the Part B application or the trial burn results. Trial burn results must be submitted prior to issuance of the permit. When the applicant submits a trial burn plan with Part B of the permit application, the Director will specify a time period prior to permit issuance in which the trial burn must be conducted and the results submitted.

[48 FR 14228, Apr. 1, 1983, as amended at 53 FR 37939, Sept. 28, 1988; 54 FR 4288, Jan. 30, 1989]

§ 270.63 Permits for land treatment demonstrations using field test or laboratory analyses.

(a) For the purpose of allowing an owner or operator to meet the treatment demonstration requirements of § 264.272 of this chapter, the Director may issue a treatment demonstration permit. The permit must contain only those requirements necessary to meet the standards in § 264.272(c). The permit may be issued either as a treatment or disposal permit covering only the field test or laboratory analyses, or as a two-phase facility permit covering the field tests, or laboratory analyses, and design, construction operation and maintenance of the land treatment unit.

(1) The Director may issue a two-phase facility permit if he finds that, based on information submitted in Part B of the application, substantial, although incomplete or inconclusive, information already exists upon which to base the issuance of a facility permit.

(2) If the Director finds that not enough information exists upon which he can establish permit conditions to attempt to provide for compliance with all of the requirements of Subpart M, he must issue a treatment demonstration permit covering only the field test or laboratory analyses.

(b) If the Director finds that a phased permit may be issued, he will establish, as requirements in the first phase of the facility permit, conditions for conducting the field tests or laboratory analyses. These permit conditions will include design and operating parameters (including the duration of the tests or analyses and, in the case of field tests, the horizontal and vertical dimensions of the treatment zone), monitoring procedures, post-demonstration clean-up activities, and any other conditions which the Director finds may be necessary under § 264.272(c). The Director will include conditions in the second phase of the facility permit to attempt to meet all Subpart M requirements pertaining to unit design, construction, operation, and maintenance. The Director will establish these conditions in the second phase of the permit based upon the substantial but incomplete or inconclusive information contained in the Part B application.

(1) The first phase of the permit will be effective as provided in § 124.15(b) of this chapter.

(2) The second phase of the permit will be effective as provided in paragraph (d) of this section.

(c) When the owner or operator who has been issued a two-phase permit has completed the treatment demonstration, he must submit to the Director a certification, signed by a person authorized to sign a permit application or report under § 270.11, that the field tests or laboratory analyses have been carried out in accordance with the conditions specified in phase one of the permit for conducting such tests or analyses. The owner or operator must also submit all data collected during the field tests or laboratory analyses within 90 days of completion of those tests or analyses unless the Director approves a later date.

(d) If the Director determines that the results of the field tests or laboratory analyses meet the requirements of § 264.272 of this chapter, he will modify the second phase of the permit to incorporate any requirements necessary for operation of the facility in compliance with Part 264, Subpart M, of this chapter, based upon the results of the field tests or laboratory analyses.

(1) This permit modification may proceed under § 270.42, or otherwise will proceed as a modification under § 270.41(a)(2). If such modifications are necessary, the second phase of the permit will become effective only after those modifications have been made.

(2) If no modifications of the second phase of the permit are necessary, the Director will give notice of his final decision to the permit applicant and to each person who submitted written comments on the phased permit or who requested notice of the final decision on the second phase of the permit. The second phase of the permit then will become effective as specified in § 124.15(b).

[48 FR 14228, Apr. 1, 1983, as amended at 53 FR 37939, Sept. 28, 1988]

§ 270.64 Interim permits for UIC wells.

The Director may issue a permit under this part to any Class I UIC well (see § 144.6) injecting hazardous wastes within a State in which no UIC program has been approved or promulgated. Any such permit shall apply and insure compliance with all applicable requirements of 40 CFR Part 264, Subpart R (RCRA standards for wells), and shall be for a term not to exceed two years. No such permit shall be issued after approval or promulgation of a UIC program in the State. Any permit under this section shall contain a condition providing that it will terminate upon final action by the Director under a UIC program to issue or deny a UIC permit for the facility.

[48 FR 14228, Apr. 1, 1983; 48 FR 30114, June 30, 1983]

§ 270.65 Research, development, and demonstration permits.

(a) The Administrator may issue a research, development, and demonstration permit for any hazardous waste treatment facility which proposes to utilize an innovative and experimental hazardous waste treatment technology or process for which permit standards for such experimental activity have not been promulgated under Part 264 or 266. Any such permit shall include such terms and conditions as will assure protection of human health and the environment. Such permits:

(1) Shall provide for the construction of such facilities as necessary, and for operation of the facility for not

onger than one year unless renewed s provided in paragraph (d) of this ection, and

(2) Shall provide for the receipt and reatment by the facility of only those ypes and quantities of hazardous aste which the Administrator deems ecessary for purposes of determining he efficacy and performance capabilies of the technology or process and he effects of such technology or procs on human health and the environent, and

(3) Shall include such requirements the Administrator deems necessary protect human health and the envinment (including, but not limited to, quirements regarding monitoring, eration, financial responsibility, clore, and remedial action), and such quirements as the Administrator ems necessary regarding testing and oviding of information to the Adinistrator with respect to the operion of the facility.

b) For the purpose of expediting view and issuance of permits under s section, the Administrator may, nsistent with the protection of man health and the environment, dify or waive permit application d permit issuance requirements in rts 124 and 270 except that there y be no modification or waiver of ulations regarding financial responility (including insurance) or of produres regarding public participation.

c) The Administrator may order an mediate termination of all operons at the facility at any time he ermines that termination is necesy to protect human health and the ironment.

d) Any permit issued under this secn may be renewed not more than ee times. Each such renewal shall for a period of not more than 1 r.

FR 28752, July 15, 1985]

Subpart G—Interim Status

0.70 Qualifying for interim status.

) Any person who owns or operates "existing HWM facility" or a facilin existence on the effective date of tutory or regulatory amendments ler the Act that render the facility subject to the requirement to have an RCRA permit shall have interim status and shall be treated as having been issued a permit to the extent he or she has:

(1) Complied with the requirements of section 3010(a) of RCRA pertaining to notification of hazardous waste activity.

[*Comment*: Some existing facilities may not be required to file a notification under section 3010(a) of RCRA. These facilities may qualify for interim status by meeting paragraph (a)(2) of this section.]

(2) Complied with the requirements of § 270.10 governing submission of Part A applications;

(b) Failure to qualify for interim status. If EPA has reason to believe upon examination of a Part A application that it fails to meet the requirements of § 270.13, it shall notify the owner or operator in writing of the apparent deficiency. Such notice shall specify the grounds for EPA's belief that the application is deficient. The owner or operator shall have 30 days from receipt to respond to such a notification and to explain or cure the alleged deficiency in his Part A application. If, after such notification and opportunity for response, EPA determines that the application is deficient it may take appropriate enforcement action.

(c) Paragraph (a) of this section shall not apply to any facility which has been previously denied a RCRA permit or if authority to operate the facility under RCRA has been previously terminated.

[48 FR 14228, Apr. 1, 1983, as amended at 49 FR 17718, Apr. 24, 1984; 50 FR 28753, July 15, 1985]

§ 270.71 Operation during interim status.

(a) During the interim status period the facility shall not:

(1) Treat, store, or dispose of hazardous waste not specified in Part A of the permit application;

(2) Employ processes not specified in Part A of the permit application; or

(3) Exceed the design capacities specified in Part A of the permit application.

(b) Interim status standards. During interim status, owners or operators shall comply with the interim status standards at 40 CFR Part 265.

§ 270.72 Changes during interim status.

(a) Except as provided in paragraph (b), the owner or operator of an interim status facility may make the following changes at the facility:

(1) Treatment, storage, or disposal of new hazardous wastes not previously identified in Part A of the permit application (and, in the case of newly listed or identified wastes, addition of the units being used to treat, store, or dispose of the hazardous wastes on the effective date of the listing or identification) if the owner or operator submits a revised Part A permit application prior to such treatment, storage, or disposal;

(2) Increases in the design capacity of processes used at the facility if the owner or operator submits a revised Part A permit application prior to such a change (along with a justification explaining the need for the change) and the Director approves the changes because:

(i) There is a lack of available treatment, storage, or disposal capacity at other hazardous waste management facilities, or

(ii) The change is necessary to comply with a Federal, State, or local requirement.

(3) Changes in the processes for the treatment, storage, or disposal of hazardous waste or addition of processes if the owner or operator submits a revised Part A permit application prior to such change (along with a justification explaining the need for the change) and the Director approves the change because:

(i) The change is necessary to prevent a threat to human health and the environment because of an emergency situation, or

(ii) The change is necessary to comply with a Federal, State, or local requirement.

(4) Changes in the ownership or operational control of a facility if the new owner or operator submits a revised Part A permit application no later than 90 days prior to the scheduled change. When a transfer of operational control of a facility occurs, the old owner or operator shall comply with the requirements of 40 CFR Part 265, Subpart H (Financial Requirements), until the new owner or operator has demonstrated to the Director that he is complying with the requirements of that subpart. The new owner or operator must demonstrate compliance with Subpart H requirements within six months of the date of the change in ownership or operational control of the facility. Upon demonstration to the Director by the new owner or operator of compliance with Subpart H, the Director shall notify the old owner or operator in writing that he no longer needs to comply with Subpart H as of the date of demonstration. All other interim status duties are transferred effective immediately upon the date of the change in ownership or operational control of the facility.

(5) Changes made in accordance with an interim status corrective action order issued by EPA under section 3008(h) or other Federal authority, by an authorized State under comparable State authority, or by a court in a judicial action brought by EPA or by an authorized State. Changes under this paragraph are limited to the treatment, storage, or disposal of solid waste from releases that originate within the boundary of the facility.

(b) Except as specifically allowed under this paragraph, changes listed under paragraph (a) of this section may not be made if they amount to reconstruction of the hazardous waste management facility. Reconstruction occurs when the capital investment in the changes to the facility exceeds 50 percent of the capital cost of a comparable entirely new hazardous waste management facility. If all other requirements are met, the following changes may be made even if they amount to a reconstruction:

(1) Changes made solely for the purposes of complying with the requirements of 40 CFR 265.193 for tanks and ancillary equipment.

(2) If necessary to comply with Federal, State, or local requirements, changes to an existing unit, changes solely involving tanks or containers, or addition of replacement surface in-

oundments that satisfy the standards f section 3004(o).

(3) Changes that are necessary to llow owners or operators to continue andling newly listed or identified azardous wastes that have been reated, stored, or disposed of at the acility prior to the effective date of he rule establishing the new listing or lentification.

(4) Changes during closure of a facil- y or of a unit within a facility made accordance with an approved clo- ure plan.

(5) Changes necessary to comply ith an interim status corrective tion order issued by EPA under sec- on 3008(h) or other Federal author- y, by an authorized State under com- arable State authority, or by a court a judicial proceeding brought by PA or an authorized State, provided at such changes are limited to the eatment, storage, or disposal of solid aste from releases that originate ithin the boundary of the facility.

(6) Changes to treat or store, in nks or containers, hazardous wastes bject to land disposal restrictions nposed by Part 268 or RCRA section 004, provided that such changes are ade solely for the purpose of comply- g with Part 268 or RCRA section 004.

4 FR 9608, Mar. 7, 1989]

270.73 Termination of interim status.

Interim status terminates when:

(a) Final administrative disposition a permit application is made; or

(b) Interim status is terminated as ovided in § 270.10(e)(5).

(c) For owners or operators of each nd disposal facility which has been anted interim status prior to Novem- r 8, 1984, on November 8, 1985, less:

(1) The owner or operator submits a rt B application for a permit for ch facility prior to that date; and

(2) The owner or operator certifies at such facility is in compliance with applicable ground-water monitor- g and financial responsibility re- irements.

(d) For owners or operators of each nd disposal facility which is in exist- ce on the effective date of statutory regulatory amendments under the Act that render the facility subject to the requirement to have a RCRA permit and which is granted interim status, twelve months after the date on which the facility first becomes subject to such permit requirement unless the owner or operator of such facility:

(1) Submits a Part B application for a RCRA permit for such facility before the date 12 months after the date on which the facility first becomes subject to such permit requirement; and

(2) Certifies that such facility is in compliance with all applicable ground water monitoring and financial responsibility requirements.

(e) For owners or operators of any land disposal unit that is granted authority to operate under § 270.72(a) (1), (2) or (3), on the date 12 months after the effective date of such requirement, unless the owner or operator certifies that such unit is in compliance with all applicable groundwater monitoring and financial responsibility requirements.

(f) For owners or operators of each incinerator facility on November 8, 1989, unless the owner or operator of the facility submits a Part B application for a RCRA permit for an incinerator facility by November 8, 1986.

(g) For owners or operators of any facility (other than a land disposal or an incinerator facility) on November 8, 1992, unless the owner or operator of the facility submits a Part B application for a RCRA permit for the facility by November 8, 1988.

(Approved by the Office of Management and Budget under control number 2050-0037)

[48 FR 14228, Apr. 1, 1983, as amended at 50 FR 28753, July 15, 1985; 54 FR 9609, Mar. 7, 1989]

PART 271—REQUIREMENTS FOR AUTHORIZATION OF STATE HAZARDOUS WASTE PROGRAMS

Subpart A—Requirements for Final Authorization

Sec.
271.1 Purpose and scope.
271.2 Definitions.
271.3 Availability of final authorization.
271.4 Consistency.
271.5 Elements of a program submission.
271.6 Program description.
271.7 Attorney General's statement.
271.8 Memorandum of Agreement with the Regional Administrator.
271.9 Requirements for identification and listing of hazardous wastes.
271.10 Requirements of generators of hazardous wastes.
271.11 Requirements for transporters of hazardous wastes.
271.12 Requirements for hazardous waste management facilities.
271.13 Requirements with respect to permits and permit applications.
271.14 Requirements for permitting.
271.15 Requirements for compliance evaluation programs.
271.16 Requirements for enforcement authority.
271.17 Sharing of information.
271.18 Coordination with other programs.
271.19 EPA review of State permits.
271.20 Approval process.
271.21 Procedures for revision of State programs.
271.22 Criteria for withdrawing approval of State programs.
271.23 Procedures for withdrawing approval of State programs.
271.24 Interim authorization under section 3006(g) of RCRA.
217.25 HSWA requirements.

Subpart B—Requirements for Interim Authorization

271.121 Purpose and scope.
271.122 Schedule.
271.123 Elements of a program submission.
271.124 Program description.
271.125 Attorney General's statement.
271.126 Memorandum of Agreement with the Regional Administrator.
271.127 Authorization plan.
271.128 Program requirements for interim authorization for Phase I.
271.129 Additional program requirements for interim authorization for Phase II.
271.130 Interstate movement of hazardous waste.
271.131 Progress reports.
Sec.
271.132 Sharing of information.
271.133 Coordination with other programs.
271.134 EPA review of State permits.
271.135 Approval process.
271.136 Withdrawal of State programs.
271.137 Reversion of State programs.
271.138 Interim authorization under section 3006(g) of RCRA.

AUTHORITY: 42 U.S.C. 6905, 6912(a), and 6926.

SOURCE: 48 FR 14248, Apr. 1, 1983, unless otherwise noted.

Subpart A—Requirements for Final Authorization

§ 271.1 Purpose and scope.

(a) This subpart specifies the procedures EPA will follow in approving, revising, and withdrawing approval of State programs and the requirements State programs must meet to be approved by the Administrator under sections 3006 (b) and (f) of RCRA.

(b) State submissions for program approval must be made in accordance with the procedures set out in this subpart.

(c) The substantive provisions which must be included in State programs for them to be approved include requirements for permitting, compliance evaluation, enforcement, public participation, and sharing of information. Many of the requirements for State programs are made applicable to States by cross-referencing other EPA regulations. In particular, many of the provisions of Parts 270 and 124 are made applicable to States by the references contained in § 271.14.

(d) Upon receipt of a complete submission, EPA will conduct a public hearing, if interest is shown, and determine whether to approve or disapprove the program taking into consideration the requirements of this subpart, the Act and any comments received.

(e) The Administrator shall approve State programs which conform to the applicable requirements of this subpart.

(f) Except as provided in § 271.3(a)(3), upon approval of a State permitting program, the Administrator shall suspend the issuance of Fed-

eral permits for those activities sub-
ect to the approved State program.

(g) Any State program approved by
he Administrator shall at all times be
onducted in accordance with the re-
uirements of this subpart.

(h) Partial State programs are not
llowed for programs operating under
RCRA final authorization. However,
n many cases States will lack author-
y to regulate activities on Indian
nds. This lack of authority does not
npair a State's ability to obtain full
rogram approval in accordance with
his subpart, i.e., inability of a State to
egulate activities on Indian lands
oes not constitute a partial program.
PA will administer the program on
dian lands if the State does not seek
is authority.

Note: States are advised to contact the
nited States Department of the Interior,
ureau of Indian Affairs, concerning au-
ority over Indian lands.

(i) Except as provided in § 271.4,
thing in this subpart precludes a
ate from:

(1) Adopting or enforcing require-
ents which are more stringent or more extensive than those required under this subpart;

(2) Operating a program with a greater scope of coverage than that required under this subpart. Where an approved State program has a greater scope of coverage than required by Federal law, the additional coverage is not part of the Federally approved program.

(j) Requirements and prohibitions which are applicable to the generation, transportation, treatment, storage, or disposal of hazardous waste and which are imposed pursuant to the Hazardous and Solid Waste Amendments of 1984 (HSWA) include any requirement or prohibition which has taken effect under HSWA, such as:

(1) All regulations specified in Table 1, and

(2) The self-implementing statutory provisions specified in Table 2 that have taken effect.

Note: See §§ 264.1(f)(3), 265.1(c)(4)(ii), 271.3(b), 271.21(e)(2) and 271.121(c)(3) for applicability.

TABLE 1—REGULATIONS IMPLEMENTING THE HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984

mulgation date	Title of regulation	Federal Register reference	Effective date
14, 1985	Dioxin-containing wastes	50 FR 1978-2006	July 15, 1985.
30, 1985	Paint filter liquids test	50 FR 18370-5	June 14, 1985.
15, 1985	Codification rule [as corrected in 51 FR 2702, 1/21/86].	50 FR 28702-55	July 15, 1985.
23, 1985	Listing wastes from the production of dinitrotoluene, toluenediamine, and toluene diisocyanate.	50 FR 42936-43	Oct. 23, 1985.
29, 1985	Standards for the management of the burning of specific wastes in specific types of facilities.	50 FR 49164-212	Dec. 9, 1985. Mar. 31, 1986. May 29, 1986.
31, 1985	Amendment of spent solvent listings to include solvent mixtures [as corrected in 51 FR 19176, 5/28/86].	50 FR 53315-20	Jan. 30, 1986.
13, 1986	Listing wastes from the production of ethylene dibromide (EDB).	51FR 5327-31	Aug. 13, 1986.
25, 1986	Listing of four spent solvents and the still bottoms from their recovery.	51 FR 6537-42	Aug. 25, 1986.
24, 1986	Regulations for generators of 100-1000 kg/mo of hazardous waste.	51 FR 10146-76	Sept. 22, 1986.
14, 1986	Hazardous Waste Tank Regulations:¹ 260.10; 262.34(a)(1); 264.110; 264.140; 264.190-264.199; 265.110; 265.140; 265.190-265.200; 270.14(b); 270.16; and 270.72 (e).	51 FR 25422-86	Jan. 12, 1987. Mar. 24, 1987.
8, 1986	Exports of hazardous waste	51 FR 28664-86	Nov. 8, 1986.
24, 1986	Listing Wastes from the Production and Formulation of Ethylenebisdithiocarbamic Acid (EBDC) and its Salts.	51 FR 37725	Apr. 24, 1987.
7, 1986	Land Disposal Restrictions for solvents and dioxins	51 FR 40572	Nov. 8, 1986.
, 1987	Land disposal restrictions for California list wastes	52 FR 25760	July 8, 1987.
23, 1987	Exception Reporting for Small Quantity Generators of Hazardous Waste.	52 FR 35899	Mar. 23, 1988.
1, 1987	Codification rule for the 1984 RCRA Amendments	52 FR 45799	Dec. 31, 1987.
17, 1988	Land disposal restrictions for First Third wastes.	53 FR 31138-222	Aug. 8, 1988.

TABLE 1—REGULATIONS IMPLEMENTING THE HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984—Continued

Promulgation date	Title of regulation	Federal Register reference	Effective date
June 23, 1989	Land Disposal Restrictions for Second Third wastes	54 FR 26594-652	June 8, 1989.
October 6, 1989	Listing Wastes from the Production of Methyl Bromide	54 FR 41402—408	April 6, 1990.
December 11, 1989.	Listing Certain Hydrocarbons Produced by Free Radical Catalyzed Processes.	54 FR 50968—978	June 11, 1990.
March 29, 1990	Toxicity characteristic	55 FR 11798-11877	September 25, 1990.
May 1, 1990	Listing Wastes from the Production of UDMH from Carboxylic Acid Hydrazides.	55 FR 18496-506	November 2, 1990.
June 1, 1990.	Land Disposal Restrictions for Third Third wastes	55 FR 22520-720	May 8, 1990.
June 21, 1990.	Process Vent and Equipment Leak Organic Air Emission Standards for Owners and Operators of Hazardous Waste Treatment, Storage, and Disposal Facilities.	55 FR 25454-519	December 21, 1990.

[1] These regulations implement HSWA only to the extent that they apply to tank systems owned or operated by smal quantity generators, establish leak detection requirements for all new underground tank systems, and establish permiting standards for underground tank systems that cannot be entered for inspection.

TABLE 2—SELF-IMPLEMENTING PROVISIONS OF THE HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984

Effective date	Self-implementing provision	RCRA citation	FEDERAL REGISTER reference
Nov. 8, 1984	Delisting procedures	3001(f)	July 15, 1985, 50 FR 28702-55.
Do	Waste disposal for small quantity generators prior to March 31, 1986	3001(d)(5)	Do.
Do	Prohibition of disposal in salt domes, salt beds and underground mines and caves.	3004(b)	Do.
Do	Land disposal prohibition not applicable to contaminated soil or debris from a CERCLA response action or a RCRA corrective action prior to November 8, 1988.	3004(d)(3)	Do.
Do	Loss of interim status	3005(c)(2)(C) & (e)(2)–(3)	Do.
Do	Storage of wastes prohibited from land disposal	3004(j) & 3005(j)(11)	Do.
Do	Prohibition of waste and used oil as dust suppressant	3004(l)	Do.
Do	Minimum technological requirements for new and expanding surface impoundments, landfills and incinerators.	3004(o)	Do.
Do	Ground water monitoring	3004(p)	Do.
Do	Prohibition for burning fuels containing hazardous waste in any cement kilns.	3004(q)(2)(C)	Do
Do	Financial responsibility for liability of guarantor when owner/operator is in bankruptcy.	3004(t)(2)–(3)	Do.
Do	Corrective action	3004(u)	Do.
Do	Review of land disposal permits every 5 years	3005(c)(3)	Do.
Do	Permit terms and conditions necessary to protect human health and the envirorment.	3005(c)(3)	Do.
Do	Research, development, and demonstration permits	3005(g)	Do.
Do	Interim status facilities receiving waste after July 26, 1982.	3005(i)	Do.
Do	Deadline for surface impoundment retrofit exemption application.	3005(j)(5)	Do.
Feb. 7, 1985	Fuel labeling requirements	3004(r)	Do.
May 8, 1985	Prohibition of liquids in landfills	3004(c)(1)	Do.
Do	Expansions during interim status for waste piles	3015(a)	Do.
Do	Expansions during interim status for landfills and surface impoundments.	3015(b)	Do.
Do	Interim control of hazardous waste disposed of by underground injection.	7010(a)	Do.
Aug. 5, 1985	Small quantity generator manifest requirements	3001(d)(3)	Do.
Aug. 8, 1985	Exposure assessments to accompany landfill and surface impoundment permit applications.	3019(a)	Do.
Sept. 1, 1985	Waste mininization certification on manifest	3002(b)	Do.
Do	Waste minimization permit condition	3005(h)	Do.
Nov. 8, 1985	Prohibition of non-hazardous liquids in landfills	3004(c)(3)	Do.
Do	Notification of hazardous waste export	3017(c)	Do.

ABLE 2—SELF-IMPLEMENTING PROVISIONS OF THE HAZARDOUS AND SOLID WASTE AMENDMENTS OF 1984—Continued

ffective date	Self-implementing provision	RCRA citation	FEDERAL REGISTER reference
. 8, 1986 [1]	Notification requirements for producers, burners, blenders, distributors and marketers of waste derived fuel.	3010(a)	Nov. 29, 1985, 50 FR 49164-211.
. 31, 1986 [2]	Small quantity generator requirements	3001(d)(8)	Mar. 24, 1986, 51 FR 10146-78.
. 8, 1986	Land disposal prohibitions on dioxins and F001-F005 solvents.	3004(e)	Nov. 7, 1986, 51 FR 40572.
Do	Temporary granting of exclusion petitions ceases	3001(f)(2)(B)	
Do	Export of hazardous waste	3017(a)	Aug. 8, 1986, 51 FR 28664-86.
8, 1987	Land disposal restrictions for California list wastes	3004(d)	July 8, 1987, 52 FR 25760.
. 23, 1987	Exception reporting for small quantity generators of hazardous waste.	52 FR 35899	Mar. 23, 1988.
8, 1988	Prohibition on California wastes, dioxins, and solvents in deep injection wells.	3004(f)(3)	
Do	Land disposal restrictions of ⅓ of listed wastes	3004(g)(6)(A)	Aug. 17, 1988, 53 FR 31138-222.
. 8, 1988	Prohibition on wastes in existing surface impoundments unless double lined.	3005(j)	
8, 1989	Prohibition on land disposal of ⅔ of listed wastes	3004(g)(6)(B)	June 23, 1989, 54 FR 26594-652.
8, 1990	Prohibition on land disposal of 3/3 of listed wastes	3004(g)(6)(C)	June 1, 1990, 55 FR 22520-720.

ote that the effective date was changed to Jan. 29, 1986 by the Nov. 29, 1985 rule.
ote that the effective date was changed to Sept. 22, 1986 by the Mar. 24, 1986 rule.

FR 14248, Apr. 1, 1983]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 271.1, see the List of CFR Secns Affected in the Finding Aids section of this volume.

FFECTIVE DATE NOTE: At 55 FR 11876, Mar. 29, 1990 §271.1 paragraph (j) Table 1 was ended by adding the third to last entry in the table, effective September 25, 1990. At 55 FR 05, May 2, 1990, the same table was amended by adding the next to last entry in the table, ective November 2, 1990. At 55 FR 25519, June 21, 1990, the same table was amended by ing the last entry in the table, effective December 21, 1990. At 55 FR 26987, June 29, 1990, same table was amended by correcting the third to last entry in the table, effective tember 25, 1990.

1.2 Definitions.

he definitions in Part 270 apply to subparts of this part.

1.3 Availability of final authorization.

a) Where a State program meets requirements of section 3006 of RA and this subpart it may receive horization for any provision of its gram corresponding to a Federal vision in effect on the date of the te's authorization.

) States approved under this subt are authorized to administer and orce their hazardous waste prom in lieu of the Federal program, ept as provided below:

) Any requirement or prohibition ich is applicable to the generation, nsportation, treatment, storage, or posal of hazardous waste and which mposed pursuant to the Hazardous and Solid Waste Amendments of 1984 takes effect in each State having a finally authorized State program on the same date as such requirement takes effect in other States. These requirements and prohibitions are identified in § 271.1(j).

(2) The requirements and prohibitions in § 271.1(j) supersede any less stringent provision of a State program. The Administrator is authorized to carry out each such Federal requirement and prohibition in an authorized State except where, pursuant to section 3006(b) or 3006(g)(2) of RCRA, the State has received final or interim authorization to carry out the particular requirement or prohibition. Violations of Federal requirements and prohibitions effective in authorized States are enforceable under sections 3008, 3013 and 7003 of RCRA.

(3) Until an authorized State program is revised to reflect the amendments made by the Hazardous and Solid Waste Amendments of 1984 and such program revisions receive final or interim authorization pursuant to section 3006(b) or 3006(g)(2) of RCRA, the Administrator shall have the authority in such State to issue or deny permits or those portions of permits affected by the requirements and prohibitions established by the Hazardous and Solid Waste Amendments of 1984.

(c)(1) States may apply for final authorization at any time after the promulgation of the last component of Phase II.

(2) State programs under final authorization shall not take effect until the effective date of the last component of Phase II.

(d) State operating under interim authorization may apply for and receive final authorization as specified in paragraph (c) of this section. Notwithstanding approval under Subpart B such States must meet all the requirements of this subpart in order to qualify for final authorization.

(e) States need not have been approved under Subpart B in order to qualify for final authorization.

(f) Official State applications for final authorization may be reviewed on the basis of Federal self-implementing statutory provisions that were in effect 12 months prior to the State's submission of its official application (if no implementing regulations have previously been promulgated) and the regulations in 40 CFR Parts 124, 260-266, 268, 270 and 271 that were in effect 12 months prior to the State's submission of its official application. To meet this requirement the State may demonstrate that its program qualifies for final authorization pursuant to this subpart or interim authorization under § 271.24. States are not precluded from seeking authorization for requirements taking effect less than 12 months prior to the State's submittal of its final application.

[48 FR 14248, Apr. 1, 1983, as amended at 50 FR 28753, July 15, 1985; 51 FR 33721, Sept. 22, 1986]

§ 271.4 Consistency.

To obtain approval, a State program must be consistent with the Federal program and State programs applicable in other States and in particular must comply with the provisions below. For purposes of this section the phrase "State programs applicable in other States" refers only to those State hazardous waste programs which have received final authorization under this part.

(a) Any aspect of the State program which unreasonably restricts, impedes, or operates as a ban on the free movement across the State border of hazardous wastes from or to other States for treatment, storage, or disposal at facilities authorized to operate under the Federal or an approved State program shall be deemed inconsistent.

(b) Any aspect of State law or of the State program which has no basis in human health or environmental protection and which acts as a prohibition on the treatment, storage or disposal of hazardous waste in the State may be deemed inconsistent.

(c) If the State manifest system does not meet the requirements of this part, the State program shall be deemed inconsistent.

[48 FR 14248, Apr. 1, 1983; 48 FR 30114, June 30, 1983]

§ 271.5 Elements of a program submission.

(a) Any State that seeks to administer a program under this part shall submit to the Administrator at least three copies of a program submission. The submission shall contain the following:

(1) A letter from the Governor of the State requesting program approval;

(2) A complete program description, as required by § 271.6 describing how the State intends to carry out its responsibilities under this subpart;

(3) An Attorney General's statement as required by § 271.7;

(4) A Memorandum of Agreement with the Regional Administrator as required by § 271.8;

(5) Copies of all applicable State statutes and regulations, including

those governing State administrative procedures; and

(6) The showing required by §271.20(c) of the State's public participation activities prior to program submission.

(b) Within 30 days of receipt by EPA of a State program submission, EPA will notify the State whether its submission is complete. If EPA finds that a State's submission is complete, the statutory review period (i.e., the period of time allotted for formal EPA review of a proposed State program under section 3006(b) of the Act) shall be deemed to have begun on the date of receipt of the State's submission. If EPA finds that a State's submission is incomplete, the review period shall not begin until all necessary information is received by EPA.

(c) If the State's submission is materially changed during the review period, the review period shall begin again upon receipt of the revised submission.

(d) The State and EPA may extend the review period by agreement.

§271.6 Program description.

Any State that seeks to administer a program under this subpart shall submit a description of the program it proposes to administer in lieu of the Federal program under State law or under an interstate compact. The program description shall include:

(a) A description in narrative form of the scope, structure, coverage and processes of the State program.

(b) A description (including organiation charts) of the organization and tructure of the State agency or agenies which will have responsibility for dministering the program, including he information listed below. If more han one agency is responsible for adinistration of a program, each gency must have statewide jurisdicon over a class of activities. The reponsibilities of each agency must be elineated, their procedures for cordination set forth, and an agency ust be designated as a "lead agency" facilitate communications between PA and the State agencies having rogram responsibilities. When the tate proposes to administer a proam of greater scope of coverage than is required by Federal law, the information provided under this paragraph shall indicate the resources dedicated to administering the Federally required portion of the program.

(1) A description of the State agency staff who will carry out the State program, including the number, occupations, and general duties of the employees. The State need not submit complete job descriptions for every employee carrying out the State program.

(2) An itemization of the estimated costs of establishing and administering the program, including cost of the personnel listed in paragraph (b)(1) of this section, cost of administrative support, and cost of technical support. This estimate must cover the first two years after program approval.

(3) An itemization of the sources and amounts of funding, including an estimate of Federal grant money, available to the State Director to meet the costs listed in paragraph (b)(2) of this section, identifying any restrictions or limitations upon this funding. This estimate must cover the first two years after program approval.

(c) A description of applicable State procedures, including permitting procedures and any State administrative or judicial review procedures.

(d) Copies of the permit form(s), application form(s), and reporting form(s) the State intends to employ in its program. Forms used by the State for hazardous waste management need not be identical to the forms used by EPA but should require the same basic information, except that the State RCRA program must require the use of EPA Manifest Forms 8700-22 and 8700-22A. Where the State preprints information on the Manifest forms, such forms must be submitted with the State's application for approval. Restrictions on preprinting by the States are identified in 40 CFR 271.10(h). Otherwise, the State need not provide copies of uniform national forms it intends to use but should note its intention to use such forms.

(e) A complete description of the State's compliance tracking and enforcement program.

(f) A description of the State manifest tracking system, and of the procedures the State will use to coordinate information with other approved State programs and the Federal program regarding interstate and international shipments.

(g) An estimate of the number of the following:

(1) Generators;

(2) Transporters; and

(3) On- and off-site storage, treatment and disposal facilities, and a brief description of the types of facilities and an indication of the permit status of these facilities.

(h) If available, an estimate of the annual quantities of hazardous wastes generated within the State; transported into and out of the State; and stored, treated, or disposed of within the State: On-site; and Off-site.

[48 FR 14248, Apr. 1, 1983, as amended at 49 FR 10506, Mar. 20, 1984]

§ 271.7 Attorney General's statement.

(a) Any State that seeks to administer a program under this subpart shall submit a statement from the State Attorney General (or the attorney for those State agencies which have independent legal counsel) that the laws of the State provide adequate authority to carry out the program described under § 271.6 and to meet the requirements of this subpart. This statement shall include citations to the specific statutes, administrative regulations and, where appropriate, judicial decisions which demonstrate adequate authority. State statutes and regulations cited by the State Attorney General or independent legal counsel shall be in the form of lawfully adopted State statues and regulations at the time the statement is signed and shall be fully effective by the time the program is approved. To qualify as "independent legal counsel" the attorney signing the statement required by this section must have full authority to independently represent the State agency in court on all matters pertaining to the State program.

NOTE: EPA will supply States with an Attorney General's statement format on request.

(b) When a State seeks authority over activities on Indian lands, the statement shall contain an appropriate analysis of the State's authority.

§ 271.8 Memorandum of Agreement with the Regional Administrator.

(a) Any State that seeks to administer a program under this subpart shall submit a Memorandum of Agreement (MOA). The Memorandum of Agreement shall be executed by the State Director and the Regional Administrator and shall become effective when approved by the Administrator. In addition to meeting the requirements of paragraph (b) of this section, the Memorandum of Agreement may include other terms, conditions, or agreements consistent with this subpart and relevant to the administration and enforcement of the State's regulatory program. The Administrator shall not approve any Memorandum of Agreement which contains provisions which restrict EPA's statutory oversight responsibility.

(b) All Memoranda of Agreement shall include the following:

(1) Provisions for the Regional Administrator to promptly forward to the State Director information obtained prior to program approval in notifications provided under section 3010(a) of RCRA. The Regional Administrator and the State Director shall agree on procedures for the assignment of EPA identification numbers for new generators, transporters, treatment, storage, and disposal facilities.

(2) Provisions specifying the frequency and content of reports, documents and other information which the State is required to submit to EPA. The State shall allow EPA to routinely review State records, reports, and files relevant to the administration and enforcement of the approved program. State reports may be combined with grant reports where appropriate.

(3) Provisions on the State's compliance monitoring and enforcement program, including:

(i) Provisions for coordination of compliance monitoring activities by the State and by EPA. These may specify the basis on which the Regional Administrator will select facilities or activities within the State for EPA inspection. The Regional Administrator will normally notify the State at least 7 days before any such inspection; and

(ii) Procedures to assure coordination of enforcement activities.

(4) Provisions allowing EPA to conduct compliance inspections of all generators, transporters, and HWM facilities in each year for which the State is operating under final authorization. The Regional Administrator and the State Director may agree to limitations on compliance inspections of generators, transporters, and non-major HWM facilities.

(5) No limitations on EPA compliance inspections of generators, transporters, or non-major HWM facilities under paragraph (b)(4) of this section shall restrict EPA's right to inspect any generator, transporter, or HWM facility which it has cause to believe is not in compliance with RCRA; however, before conducting such an inspection, EPA will normally allow the State a reasonable opportunity to conduct a compliance evaluation inspection.

(6) Provisions for the prompt transfer from EPA to the State of pending permit applications and any other information relevant to program operation not already in the possession of the State Director (e.g., support files for permit issuance, compliance reports, etc.). When existing permits are transferred from EPA to the State for administration, the Memorandum of Agreement shall contain provisions specifying a procedure for transferring the administration of these permits. If State lacks the authority to directly administer permits issued by the Federal government, a procedure may be established to transfer responsibility for these permits.

NOTE: For example, EPA and the State and the permittee could agree that the State would issue a permit(s) identical to the outstanding Federal permit which would simultaneously be terminated.

(7) Provisions specifying classes and categories of permit applications, draft permits, and proposed permits that the State will send to the Regional Administrator for review, comment and, where applicable, objection.

(8) When appropriate, provisions for joint processing of permits by the State and EPA, for facilities or activities which require permits from both EPA and the State under different programs. See § 124.4

NOTE: To promote efficiency and to avoid duplication and inconsistency, States are encouraged to enter into joint processing agreements with EPA for permit issuance.

(9) Provisions for the State Director to promptly forward to EPA copies of draft permits and permit applications for all major HWM facilities for review and comment. The Regional Administrator and the State Director may agree to limitations regarding review of and comment on draft permits and/or permit applications for non-major HWM facilities. The State Director shall supply EPA copies of final permits for all major HWM facilities.

(10) Provisions for the State Director to review all permits issued under State law prior to the date of program approval and modify or revoke and reissue them to require compliance with the requirements of this subpart. The Regional Administrator and the State Director shall establish a time within which this review must take place.

(11) Provisions for modification of the Memorandum of Agreement in accordance with this subpart.

(c) The Memorandum of Agreement, the annual program grant and the State/EPA Agreement should be consistent. If the State/EPA Agreement indicates that a change is needed in the Memorandum of Agreement, the Memorandum of Agreement may be amended through the procedures set forth in this subpart. The State/EPA Agreement may not override the Memorandum of Agreement.

NOTE: Detailed program priorities and specific arrangements for EPA support of the State program will change and are therefore more appropriately negotiated in the context of annual agreements rather than in the MOA. However, it may still be appropriate to specify in the MOA the basis for such detailed agreements, e.g., a provision in the MOA specifying that EPA will select facilities in the State for inspection annually as part of the State/EPA agreement.

§ 271.9 Requirements for identification and listing of hazardous wastes.

(a) The State program must control all the hazardous wastes controlled under 40 CFR Part 261 and must adopt a list of hazardous wastes and set of characteristics for identifying hazardous wastes equivalent to those under 40 CFR Part 261.

(b) The State is not required to have a delisting mechanism. A State may receive authorization for delisting if the State regulations for delisting decisions are equivalent to § 260.20(b) and § 260.22, and the State provides public notice and opportunity for comment before granting or denying delisting requests.

[51 FR 33721, Sept. 22, 1986]

§ 271.10 Requirements for generators of hazardous wastes.

(a) The State program must cover all generators covered by 40 CFR Part 262. States must require new generators to contact the State and obtain an EPA identicfiation number before they perform any activity subject to regulation under the approved State hazardous waste program.

(b) The State shall have authority to require and shall require all generators to comply with reporting and recordkeeping requirements equivalent to those under 40 CFR 262.40 and 262.41. States must require that generators keep these records at least 3 years.

(c) The State program must require that generators who accumulate hazardous wastes for short periods of time comply with requirements that are equivalent to the requirements for accumulating hazardous wastes for short periods of time under 40 CFR 262.34.

(d) The State program must require that generators comply with requirements that are equivalent to the requirements for the packaging, labeling, marking, and placarding of hazardous waste under 40 CFR 262.30 to 262.33, and are consistent with relevant DOT regulations under 49 CFR Parts 172, 173, 178 and 179.

(e) The State program shall provide requirements respecting international shipments which are equivalent to those at 40 CFR Part 262 Subparts E and F, except that:

(1) Advance notification, annual reports and exception reports in accordance with 40 CFR 262.53, 262.55 and 262.56 shall be filed with the Administrator; States may require that copies of the documents referenced also be filed with the State Director; and

(2) The Administrator will notify foreign countries of intended exports in conjunction with the Department of State and primary exporters of foreign countries' responses in accordance with 40 CFR 262.53.

NOTE: Such notices shall be mailed to Hazardous Waste Export, Office of International Activities (A-106), U.S. Environmental Protection Agency, Washington DC 20460.

(f) The State must require that all generators of hazardous waste who transport (or offer for transport) such hazardous waste off-site:

(1) Use a manifest system that ensures that interstate and intrastate shipments of hazardous waste are designated for delivery, and, in the case of intrastate shipments, are delivered to facilities that are authorized to operate under an approved State program or the federal program. The manifest system must include the use of manifest form as required by § 262.20(a) and § 262.21. No other manifest form, shipping document, or information, other than that required by federal law, may be required by the State to travel with the shipment.

(2) Initiate the manifest and designate on the manifest the storage, treatment, or disposal facility to which the waste is to be shipped;

(3) Ensure that all wastes offered for transportation are accompanied by the manifest, except in the case of shipments by rail or water specified in 40 CFR 262.23 (c) and (d) and § 262.20 (e) and (f). The State program shall provide requirements for shipments by rail or water equivalent to those under 40 CFR 262.23 (c) and (d) and § 263.20 (e) and (f).

(4) Investigate instances where manifests have not been returned by the owner or operator of the designated facility and report such instances to the State in which the shipment originated.

(g) In the case of interstate shipments for which the manifest has not been returned, the State program must provide for notification to the State in which the facility designated on the manifest is located and to the State in which the shipment may have been delivered (or to EPA in the case of unauthorized States).

(h) The State must follow the Federal manifest format (40 CFR 262.21) and may supplement the format to a limited extent subject to the consistency requirements of the Hazardous Materials Transportation Act (49 U.S.C. 1801 *et seq.*).

(1) A State that supplies the manifest form required by § 262.20(a) may preprint information on the form only as follows:

(i) In Items A and L, a State manifest document number; (EPA Form 8700-22, items A; EPA Form 8700-22A, Item L);

(ii) In Items 11 and 28, a hazardous materials (HM) column for use in distinguishing between federally regulated wastes and other materials according to 49 CFR 172.201(a)(1);

(iii) Anywhere on the form, light organizational marks to indicate proper placement of characters or to facilitate data entry;

(iv) Anywhere in the margin of the form or on the back of the form, any information or instructions that do not require generators, transporters, or owners or operators of hazardous waste management facilities to supply additional information;

(v) In Item 16, reference to State laws or regulations following the federal certification; and

(vi) Abbreviations for headings in State optional information spaces (EPA Form 8700-22, Items A-H; and EPA Form 8700-22A, Items L-Q).

(2) In addition to the federally required information, both the State in which the generator is located and the State in which the designated facility is located may require completion of the following items:

(i) State manifest document number (EPA Form 8700-22, Item A; EPA Form 8700-22A Item L);

(ii) For generators, State generator identification numbers (EPA Form 8700-22, Item B; EPA Form 8700-22A, Item M);

(iii) For transporters, telephone numbers and State transporter identification numbers (EPA Form 8700-22, Items C, D, E and F; EPA Form 8700-22A, Items N, O, P and Q);

(iv) For owners and operators of hazardous waste management facilities, facility telephone number, and State facility identification numbers (EPA Form 8700-22, Items G and H);

(v) Codes associated with particular wastes (EPA Form 8700-22, Item I; EPA Form 8700-22A, Item R);

(vi) Codes associated with particular waste treatment, storage, or disposal methods (EPA Form 8700-22, Item K; EPA Form 8700-22A, Item T); and

(vii) Additional waste description associated with particular hazardous wastes listed on the Manifest. This information is limited to information such as chemical names, constituent percentages, and physical state (EPA Form 8700-22, Item J; EPA Form 8700-22A, Item S).

(3) No State, however, may impose enforcement sanctions on a transporter during transportation of the shipment for failure of the form to include preprinted information or optional State information items.

(i) Unless otherwise provided in Part 271, the State program shall have standards for generators which are at least as stringent as any amendment to 40 CFR Part 262 which is promulgated after July 1, 1984.

[48 FR 14248, Apr. 1, 1983, as amended at 48 FR 30114, June 30, 1983; 49 FR 10506, Mar. 20, 1984; 49 FR 11180, Mar. 26, 1984; 51 FR 28685, Aug. 8, 1986; 51 FR 33722, Sept. 22, 1986]

§ 271.11 Requirements for transporters of hazardous wastes.

(a) The State program must cover all transporters covered by 40 CFR Part 263. New transporters must be required to contact the State and obtain an EPA identification number from the State before they accept hazardous waste for transport.

(b) The State shall have the authority to require and shall require all transporters to comply with recordkeeping requirements equivalent to those found at 40 CFR 263.22. States must require that records be kept at least 3 years.

(c) The State must require the transporter to carry the manifest during transport, except in the case of shipments by rail or water specified in 40 CFR 263.20 (e) and (f) and to deliver waste only to the facility designated on the manifest. The State program shall provide requirements for shipments by rail or water equivalent to those under 40 CFR 263.20 (e) and (f). For exports of hazardous waste, the State must require the transporter to refuse to accept hazardous waste for export if he knows the shipment does not conform to the EPA Acknowledgment of Consent, to carry an EPA Acknowledgment of Consent to the shipment, and to provide a copy of the manifest to the U.S. Customs official at the point the waste leaves the United States.

(d) For hazardous wastes that are discharged in transit, the State program must require that transporters notify appropriate State, local, and Federal agencies of such discharges, and clean up such wastes, or take action so that such wastes do not present a hazard to human health or the environment. These requirements shall be equivalent to those found at 40 CFR 263.30 and 263.31.

(e) Unless otherwise provided in Part 271, the State program shall have standards for transporters which are at least as stringent as any amendment to 40 CFR Part 263 which is promulgated after July 1, 1984.

[48 FR 14248, Apr. 1, 1983, as amended at 51 FR 28686, Aug. 8, 1986; 51 FR 33722, Sept. 22, 1986]

§ 271.12 Requirements for hazardous waste management facilities.

The State shall have standards for hazardous waste management facilities which are equivalent to 40 CFR Parts 264 and 266. These standards shall include:

(a) Technical standards for tanks, containers, waste piles, incineration, chemical, physical and biological treatment facilities, surface impoundments, landfills, and land treatment facilities;

(b) Financial responsibility during facility operation;

(c) Preparedness for and prevention of discharges or releases of hazardous waste; contingency plans and emergency procedures to be followed in the event of a discharge or release of hazardous waste;

(d) Closure and post-closure requirements including financial requirements to ensure that money will be available for closure and post-closure monitoring and maintenance;

(e) Groundwater monitoring;

(f) Security to prevent unauthorized access to the facility;

(g) Facility personnel training;

(h) Inspections, monitoring, recordkeeping, and reporting;

(i) Compliance with the manifest system, including the requirements that facility owners or operators return a signed copy of the manifest to the generator to certify delivery of the hazardous waste shipment;

(j) Other requirements to the extent that they are included in 40 CFR Parts 264 and 266.

§ 271.13 Requirements with respect to permits and permit applications.

(a) State law must require permits for owners and operators of all hazardous waste management facilities required to obtain a permit under 40 CFR Part 270 and prohibit the operation of any hazardous waste management facility without such a permit, except that States may, if adequate legal authority exists, authorize owners and operators of any facility which would qualify for interim status under the Federal program to remain in operation until a final decision is made on the permit application, or until interim status terminates pursuant to 40 CFR 270.73(b) through (f). When State law authorizes such continued operation it shall require compliance by owners and operators of such facilities with standards at least as stringent as EPA's interim status standards at 40 CFR Part 265.

(b) The State must require all new HWM facilities to contact the State and obtain an EPA identification number before commencing treatment, storage, or disposal of hazardous waste.

(c) All permits issued by the State shall require compliance with the standards adopted by the State under § 271.12.

(d) All permits issued under State law prior to the date of approval of final authorization shall be reviewed by the State Director and modified or revoked and reissued to require compliance with the requirements of this part.

[48 FR 14248, Apr. 1, 1983, as amended at 51 FR 33722, Sept. 22, 1986]

§ 271.14 Requirements for permitting.

All State programs under this subpart must have legal authority to implement each of the following provisions and must be administered in conformance with each; except that States are not precluded from omitting or modifying any provisions to impose more stringent requirements:

(a) Section 270.1(c)(1)—(Specific inclusions);

(b) Section 270.4—(Effect of permit);

(c) Section 270.5—(Noncompliance reporting);

(d) Section 270.10—(Application for a permit);

(e) Section 270.11—(Signatories);

(f) Section 270.12—(Confidential information);

(g) Section 270.13—(Contents of Part A);

(h) Sections 270.14 through 270.29—(Contents of Part B);

NOTE: States need not use a two part permit application process. The State application process must, however, require information in sufficient detail to satisfy the requirements of §§ 270.13 through 270.29.

(i) Section 270.30—(Applicable permit conditions);

(j) Section 270.31—(Monitoring requirements);

(k) Section 270.32—(Establishing permit conditions);

(l) Section 270.33—(Schedule of compliance);

(m) Section 270.40—(Permit transfer);

(n) Section 270.41—(Permit modification);

(o) Section 270.43—(Permit termination);

(p) Section 270.50—(Duration);

(q) Section 270.60—(Permit by rule);

(r) Section 270.61—(Emergency permits);

(s) Section 270.64—(Interim permits for UIC wells);

(t) Section 124.3(a)—(Application for a permit);

(u) Section 124.5 (a), (c), (d)—(Modification of permits);

(v) Section 124.6 (a), (d), and (e)—(Draft permit);

(w) Section 124.8—(Fact sheets);

(x) Section 124.10 (a)(1)(ii), (a)(1)(iii), (a)(1)(v), (b), (c), (d), and (e)—(Public notice);

(y) Section 124.11—(Public comments and requests for hearings);

(z) Section 124.12(a)—(Public hearings); and

(aa) Section 124.17 (a) and (c)—(Response to comments).

NOTE: States need not implement provisions identical to the above listed provisions. Implemented provisions must, however, establish requirements at least as stringent as the corresponding listed provisions. While States may impose more stringent requirements, they may not make one requirement more lenient as a tradeoff for making another requirement more stringent; for example, by requiring that public hearings be held prior to issuing any permit while reducing the amount of advance notice of such a hearing.

[48 FR 14248, Apr. 1, 1983; 48 FR 30115, June 30, 1983]

§ 271.15 Requirements for compliance evaluation programs.

(a) State programs shall have procedures for receipt, evaluation, retention and investigation for possible enforcement of all notices and reports required of permittees and other regulated persons (and for investigation for possible enforcement of failure to submit these notices and reports).

(b) State programs shall have inspection and surveillance procedures to determine, independent of information supplied by regulated persons, compliance or noncompliance with applicable program requirements. The State shall maintain:

(1) A program which is capable of making comprehensive surveys of all facilities and activities subject to the State Director's authority to identify persons subject to regulation who have failed to comply with permit ap-

plication or other program requirements. Any compilation, index, or inventory of such facilities and activities shall be made available to the Regional Administrator upon request;

(2) A program for periodic inspections of the facilities and activities subject to regulation. These inspections shall be conducted in a manner designed to:

(i) Determine compliance or noncompliance with issued permit conditions and other program requirements;

(ii) Verify the accuracy of information submitted by permittees and other regulated persons in reporting forms and other forms supplying monitoring data; and

(iii) Verify the adequacy of sampling, monitoring, and other methods used by permittees and other regulated persons to develop that information;

(3) A program for investigating information obtained regarding violations of applicable program and permit requirements; and

(4) Procedures for receiving and ensuring proper consideration of information submitted by the public about violations. Public effort in reporting violations shall be encouraged, and the State Director shall make available information on reporting procedures.

(c) The State Director and State officers engaged in compliance evaluation shall have authority to enter any site or premises subject to regulation or in which records relevant to program operation are kept in order to copy any records, inspect, monitor or otherwise investigate compliance with the State program including compliance with permit conditions and other program requirements. States whose law requires a search warrant before entry conform with this requirement.

(d) Investigatory inspections shall be conducted, samples shall be taken and other information shall be gathered in a manner (e.g., using proper "chain of custody" procedures) that will produce evidence admissible in an enforcement proceeding or in court.

§ 271.16 Requirements for enforcement authority.

(a) Any State agency administering a program shall have available the following remedies for violations of State program requirements:

(1) To restrain immediately and effectively any person by order or by suit in State court from engaging in any unauthorized activity which is endangering or causing damage to public health or the environment.

NOTE: This paragraph requires that States have a mechanism (e.g., an administrative cease and desist order or the ability to seek a temporary restraining order) to stop any unauthorized activity endangering public health or the environment.

(2) To sue in courts of competent jurisdiction to enjoin any threatened or continuing violation of any program requirement, including permit conditions, without the necessity of a prior revocation of the permit;

(3) To access or sue to recover in court civil penalties and to seek criminal remedies, including fines, as follows:

(i) Civil penalties shall be recoverable for any program violation in at least the amount of $10,000 per day.

(ii) Criminal remedies shall be obtainable against any person who knowingly transports any hazardous waste to an unpermitted facility; who treats, stores, or disposes of hazardous waste without a permit; or who makes any false statement, or representation in any application, label, manifest, record, report, permit or other document filed, maintained, or used for purposes of program compliance. Criminal fines shall be recoverable in at least the amount of $10,000 per day for each violation, and imprisonment for at least six months shall be available.

(b)(1) The maximum civil penalty or criminal fines (as provided in paragraph (a)(3) of this section) shall be assessable for each instance of violation and, if the violation is continuous, shall be assessable up to the maximum amount for each day of violation.

(2) The burden of proof and degree of knowledge or intent required under State law for establishing violations under paragraph (a)(3) of this section, shall be no greater than the burden of proof or degree of knowledge or intent EPA must provide when it brings an action under the Act.

TE: For example, this requirement is
et if State law includes mental state as
ement of proof for civil violations.

A civil penalty assessed, sought,
greed upon by the State Director
er paragraph (a)(3) of this section
l be appropriate to the violation.

TE: To the extent the State judgments
ttlements provide penalties in amounts
h EPA believes to be substantially inad-
te in comparison to the amounts which
would require under similar facts,
when authorized by the applicable
te, may commence separate actions for
lties.

addition to the requirements of this
graph, the State may have other en-
ment remedies. The following enforce-
options, while not mandatory, are
ly recommended:

ocedures for assessment by the State of
costs of investigations, inspections, or
itoring surveys which lead to the estab-
ment of violations;

ocedures which enable the State to
s or to sue any persons responsible for
thorized activities for any expenses in-
ed by the State in removing, correcting,
erminating any adverse effects upon
an health and the environment result-
from the unauthorized activity, whether
ot accidental;

ocedures which enable the State to sue
ompensation for any loss or destruction
ildlife, fish or aquatic life, or their habi-
and for any other damages caused by
thorized activity, either to the State or
ny residents of the State who are direct-
grieved by the unauthorized activity, or
; and

ocedures for the administrative assess-
t of penalties by the Director.

) Any State administering a pro-
m under this subpart shall provide
public participation in the State
orcement process by providing
er:

) Authority which allows interven-
as of right in any civil action to
ain the remedies specified in para-
ph (a) (2) or (3) of this section by
citizen having an interest which is
may be adversely affected; or

)(i) Assurance by the appropriate
te agency that it will investigate
provide written responses to all
zen complaints submitted pursuant
the procedures specified in
71.15(b)(4);

i) Assurance by the appropriate
te enforcement authority that it
not oppose intervention by any citizen when permissive intervention is authorized by statute, rule, or regulation; and

(iii) Assurance by the appropriate State enforcement authority that it will publish notice of and provide at least 30 days for public comment on all proposed settlements of civil enforcement actions, except in cases where a settlement requires some immediate action (e.g., cleanup) which if otherwise delayed could result in substantial damage to either public health or the environment.

(Clean Water Act (33 U.S.C. 1251 et seq.), Safe Drinking Water Act (42 U.S.C. 300f et seq.), Clean Air Act (42 U.S.C. 7401 et seq.), Resource Conservation and Recovery Act (42 U.S.C. 6901 et seq.); secs. 1006, 2002(a), 3006 and 7004 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976 (RCRA), as amended, (42 U.S.C. 6905, 6912(a), 6926 and 6974))

[48 FR 14248, Apr. 1, 1983, as amended at 48 FR 39622, Sept. 1, 1983; 49 FR 7372, Feb. 29, 1984]

§ 271.17 Sharing of information.

(a) Any information obtained or used in the administration of a State program shall be available to EPA upon request without restriction. If the information has been submitted to the State under a claim of confidentiality, the State must submit that claim to EPA when providing information under this subpart. Any information obtained from a State and subject to a claim of confidentiality will be treated in accordance with the regulations in 40 CFR Part 2. If EPA obtains from a State information that is not claimed to be confidential, EPA may make that information available to the public without further notice.

(b) EPA shall furnish to States with approved programs the information in its files not submitted under a claim of confidentiality which the State needs to implement its approved program. EPA shall furnish to States with approved programs information submitted to EPA under a claim of confidentiality, which the State needs to implement its approved program, subject to the conditions in 40 CFR Part 2.

(c) (1) The State program must provide for the public availability of information obtained by the State regarding facilities and sites for the treatment, storage, and disposal of hazardous waste. Such information must be made available to the public in substantially the same manner, and to the same degree, as would be the case if the Administrator was carrying out the provisions of Subtitle C of RCRA in the State.

(2) A State must revise its program to comply with this section in accordance with § 271.21(e)(2)(ii). Interim authorization under § 271.24 is not available to demonstrate compliance with this section.

[48 FR 14248, Apr. 1, 1983, as amended at 50 FR 28754, July 15, 1985; 51 FR 33722, Sept. 22, 1986]

§ 271.18 Coordination with other programs.

(a) Issuance of State permits under this subpart may be coordinated, as provided in Part 124, with issuance of UIC, NPDES, and 404 permits whether they are controlled by the State, EPA, or the Corps of Engineers. See § 124.4.

(b) The State Director of any approved program which may affect the planning for and development of hazardous waste management facilities and practices shall consult and coordinate with agencies designated under section 4006(b) of RCRA (40 CFR Part 255) as responsible for the development and implementation of State solid waste management plans under section 4002(b) of RCRA (40 CFR Part 256).

§ 271.19 EPA review of State permits.

(a) The Regional Administrator may comment on permit applications and draft permits as provided in the Memorandum of Agreement under § 271.8.

(b) Where EPA indicates, in a comment, that issuance of the permit would be inconsistent with the approved State program, EPA shall include in the comment:

(1) A statement of the reasons for the comment (including the section of RCRA or regulations promulgated thereunder that support the comment); and

(2) The actions that should be taken by the State Director in order to address the comments (including the conditions which the permit would include if it were issued by the Regional Administrator).

(c) A copy of any comment shall be sent to the permit applicant by the Regional Administrator.

(d) The Regional Administrator shall withdraw such a comment when satisfied that the State has met or refuted his or her concerns.

(e) Under section 3008(a)(3) of RCRA, EPA may terminate a State-issued permit in accordance with the procedures of Part 124, Subpart E, or bring an enforcement action in accordance with the procedures of 40 CFR Part 22 in the case of a violation of a State program requirement. In exercising these authorities, EPA will observe the following conditions:

(1) The Regional Administrator may take action under section 3008(a)(3) of RCRA against a holder of a State-issued permit at any time on the ground that the permittee is not complying with a condition of that permit.

(2) The Regional Administrator may take action under section 3008(a)(3) of RCRA against a holder of a State-issued permit at any time on the ground that the permittee is not complying with a condition that the Regional Administrator in commenting on the permit application or draft permit stated was necessary to implement approved State program requirements, whether or not that condition was included in the final permit.

(3) The Regional Administrator may not take action under section 3008(a)(3) of RCRA against a holder of a State-issued permit on the ground that the permittee is not complying with a condition necessary to implement approved State program requirements unless the Regional Administrator stated in commenting on the permit application or draft permit that the condition was necessary.

(4) The Regional Administrator may take action under section 7003 of RCRA against a permit holder at any time whether or not the permit holder is complying with permit conditions.

(f) Notwithstanding the above provisions, EPA shall issue permits, or portions of permits, to facilities in authorized States as necessary to implement the Hazardous and Solid Waste Amendments of 1984.

[48 FR 14248, Apr. 1, 1983, as amended at 50 FR 28754, July 15, 1985]

§ 271.20 Approval process.

(a) Prior to submitting an application to EPA for approval of a State program, the State shall issue public notice of its intent to seek program approval from EPA. This public notice shall:

(1) Be circulated in a manner calculated to attract the attention of interested persons including:

(i) Publication in enough of the largest newspapers in the State to attract statewide attention; and

(ii) Mailing to persons on the State agency mailing list and to any other persons whom the agency has reason to believe are interested;

(2) Indicate when and where the State's proposed submission may be reviewed by the public;

(3) Indicate the cost of obtaining a copy of the submission;

(4) Provide for a comment period of not less than 30 days during which time interested members of the public may express their views on the proposed program;

(5) Provide that a public hearing will be held by the State or EPA if sufficient public interest is shown or, alternatively, schedule such a public hearing. Any public hearing to be held by the State on its application for authorization shall be scheduled no earlier than 30 days after the notice of hearing is published;

(6) Briefly outline the fundamental aspects of the State program; and

(7) Identify a person that an interested member of the public may contact with any questions.

(b) If the proposed State program is ubstantially modified after the public omment period provided in paragraph (a)(4) of this section, the State hall, prior to submitting its program o the Administrator, provide an opportunity for further public comment n accordance with the procedures of aragraph (a) of this section. Provided, that the opportunity for further ublic comment may be limited to those portions of the State's application which have been changed since the prior public notice.

(c) After complying with the requirements of paragraphs (a) and (b) of this section, the State may submit, in accordance with § 271.5, a proposed program to EPA for approval. Such formal submission may only be made after the date of promulgation of the last component of Phase II. The program submission shall include copies of all written comments received by the State, a transcript, recording, or summary of any public hearing which was held by the State, and a responsiveness summary which identifies the public participation activities conducted, describes the matters presented to the public, summarizes significant comments received and responds to these comments.

(d) Within 90 days from the date of receipt of a complete program submission for final authorization, the Administrator shall make a tentative determination as to whether or not he expects to grant authorization to the State program. If the Administrator indicates that he may not approve the State program he shall include a general statement of his areas of concern. The Administrator shall give notice of this tentative determination in the FEDERAL REGISTER and in accordance with paragraph (a)(1) of this section. Notice of the tentative determination of authorization shall also:

(1) Indicate that a public hearing will be held by EPA no earlier than 30 days after notice of the tentative determination of authorization. The notice may require persons wishing to present testimony to file a request with the Regional Administrator, who may cancel the public hearing if sufficient public interest in a hearing is not expressed.

(2) Afford the public 30 days after the notice to comment on the State's submission and the tentative determination; and

(3) Note the availability of the State submission for inspection and copying by the public.

(e) Within 90 days of the notice given pursuant to paragraph (d) of this section, the Administrator shall make a final determination whether or not to approve the State's program, taking into account any comments submitted. The Administrator will grant final authorization only after the effective date of the last component of Phase II. The Administrator shall give notice of this final determination in the Federal Register and in accordance with paragraph (a)(1) of this section. The notification shall include a concise statement of the reasons for this determination, and a response to significant comments received.

[48 FR 14248, Apr. 1, 1983; 48 FR 30115, June 30, 1983]

§ 271.21 Procedures for revision of State programs.

(a) Either EPA or the approved State may initiate program revision. Program revision may be necessary when the controlling Federal or State statutory or regulatory authority is modified or supplemented. The State shall keep EPA fully informed of any proposed modifications to its basic statutory or regulatory authority, its forms, procedures, or priorities.

(b) Revision of a State program shall be accomplished as follows:

(1) The State shall submit a modified program description, Attorney General's statement, Memorandum of Agreement, or such other documents as EPA determines to be necessary under the circumstances.

(2) The Administrator shall approve or disapprove program revisions based on the requirements of this part and of the Act. In approving or disapproving program revisions, the Administrator shall follow the procedures of paragraph (b)(3) or (4) of this section.

(3) The procedures for an immediate final publication of the Administrator's decision are as follows:

(i) The Administrator shall issue public notice of his approval or disapproval of a State program revision:

(A) In the Federal Register;

(B) In enough of the largest newspapers in the State to attract Statewide attention; and

(C) By mailing to persons on the State agency mailing list and to any other persons whom the agency has reason to believe are interested.

(ii) The public notice shall summarize the State program revision, indicate whether EPA intends to approve or disapprove the revision and provide for an opportunity to comment for a period of 30 days.

(iii) Approval or disapproval of a State program revision shall become effective 60 days after the date of publication in the Federal Register in accordance with paragraph (b)(3)(i) of this section, unless an adverse comment pertaining to the State revision discussed in the notice is received by the end of the comment period. If an adverse comment is received the Administrator shall so notify the State and shall, within 60 days after the date of publication, publish in the Federal Register either:

(A) A withdrawal of the immediate final decision; or

(B) A notice containing a response to comments and which either affirms that the immediate final decision takes effect or reverses the decision.

(4) The procedures for proposed and final publication of the Administrator's decision are as follows:

(i) The Administrator shall issue public notice of his proposed approval or disapproval of a State program revision:

(A) In the Federal Register;

(B) In enough of the largest newspapers in the State to attract Statewide attention; and

(C) By mailing to persons on the State agency mailing list and to any other persons whom the agency has reason to believe are interested.

(ii) The public notice shall summarize the State program revision, indicate whether EPA intends to approve or disapprove the revision and provide for an opportunity to comment for a period of at least 30 days.

(iii) A State program revision shall become effective when the Administrator's final approval is published in the Federal Register.

(c) States with approved programs shall notify EPA whenever they propose to transfer all or part of any program from the approved State agency to any other State agency, and shall identify any new division of responsibilities among the agencies involved. The new agency is not authorized to administer the program until approved by the Administrator under paragraph (b) of this section. Organizational charts required under § 271.6(b) shall be revised and resubmitted.

(d) Whenever the Administrator has reason to believe that circumstances have changed with respect to a State program, he may request, and the State shall provide, a supplemental Attorney General's statement, program description, or such other documents or information as are necessary.

(e)(1) As the Federal program changes, authorized State programs must be revised to remain in compliance with this subpart.

(2) Federal program changes are defined for purposes of this section as promulgated amendments to 40 CFR Parts 124, 270, 260–266, or 268 and any self-implementing statutory provisions (i.e., those taking effect without prior implementing regulations) which are listed as State program requirements in this subpart. States must modify their programs to reflect Federal program changes and must subsequently submit the modifications to EPA for approval.

(i) For Federal program changes occurring before July 1, 1984, the State program must be modified within one year of the date of the Federal program change.

(ii) Except as provided in paragraphs (e) (iii) and (iv) of this section, for Federal program changes occurring on or after July 1, 1984, the State program must be modified by July 1 of each year to reflect all changes to the Federal program occurring during the 12 months preceding the previous July 1. (For example, States must modify their programs by July 1, 1986 to reflect all changes from July 1, 1984 to June 30, 1985.)

(iii) For Federal program changes identified in § 271.1(j) that occur between November 8, 1984 and June 30, 1987 (inclusive), the State program must be modified by July 1, 1989.

(iv) For Federal program changes identified in § 271.1(j) that occur between July 1, 1987 and June 30, 1990 (inclusive), the State program must be modified by July 1, 1991.

(v) States may have an additional year to modify their programs for those changes to the Federal program identified in paragraphs (e) (i), (ii), (iii), and (iv) of this section which necessitate a State statutory amendment.

(3) The deadlines in paragraphs (e)(2)(i) through (v) may be extended by the Regional Administrator upon an adequate demonstration by a State that it has made a good faith effort to meet these deadlines and that its legislative or rulemaking procedures render the State unable to do so. No such extension shall exceed six months.

(4)(i) Within 30 days of the completion of the State program modification the State must submit to EPA a copy of the program change and a schedule indicating when the State intends to seek approval of the change. Such schedule shall not exceed the dates provided for in paragraph (e)(4)(ii).

(ii) Within 60 days of the appropriate deadline in paragraphs (e), (f), and (g) of this section, the State must submit to EPA the documentation described in paragraph (b) of this section to revise its program.

(f) A State must modify its program to comply with any Federal program changes which occur prior to the day that final authorization is received, except for those changes that the State has already received authorization for pursuant to § 271.3(f). Such State program modifications must be completed and submitted by the deadlines specified in paragraph (e) of this section or by the date of final authorization, whichever is later.

(g)(1) States that are unable to modify their programs by the deadlines in paragraph (e) may be placed on a schedule of compliance to adopt the program revision(s) provided that:

(i) The State has received an extension of the program modification deadline under paragraph (e)(3) and has made diligent efforts to revise its program during that period of time,

(ii) The State has made progress in adopting the program modifications,

(iii) The State submits a proposed timetable for the requisite regulatory and/or statutory revisions by the deadline granted under paragraph (e)(3),

(iv) The schedule of compliance for program revisions does not exceed one year from the extended program modification deadline under paragraph (e)(3), and

(v) The schedule of compliance is published in the FEDERAL REGISTER.

(2) If a State fails to comply with the schedule of compliance, the Administrator may initiate program withdrawal procedures pursuant to §§ 271.22 and 271.23.

[48 FR 14248, Apr. 1, 1983, as amended at 51 FR 7542, Mar. 4, 1986; 51 FR 33722, Sept. 22, 1986]

§ 271.22 Criteria for withdrawing approval of State programs.

(a) The Administrator may withdraw program approval when a State program no longer complies with the requirements of this subpart, and the State fails to take corrective action. Such circumstances include the following:

(1) When the State's legal authority no longer meets the requirements of this part, including:

(i) Failure of the State to promulgate or enact new authorities when necessary; or

(ii) Action by a State legislature or court striking down or limiting State authorities.

(2) When the operation of the State program fails to comply with the requirements of this part, including:

(i) Failure to exercise control over activities required to be regulated under this part, including failure to issue permits;

(ii) Repeated issuance of permits which do not conform to the requirements of this part; or

(iii) Failure to comply with the public participation requirements of this part.

(3) When the State's enforcement program fails to comply with the requirements of this part, including:

(i) Failure to act on violations of permits or other program requirements;

(ii) Failure to seek adequate enforcement penalties or to collect administrative fines when imposed; or

(iii) Failure to inspect and monitor activities subject to regulation.

(4) When the State program fails to comply with the terms of the Memorandum of Agreement required under § 271.8.

§ 271.23 Procedures for withdrawing approval of State programs.

(a) A State with a program approved under this part may voluntarily transfer program responsibilities required by Federal law to EPA by taking the following actions, or in such other manner as may be agreed upon with the Administrator.

(1) The State shall give the Administrator 180 days notice of the proposed transfer and shall submit a plan for the orderly transfer of all relevent program information not in the possession of EPA (such as permits, permit files, compliance files, reports, permit applications) which are necessary for EPA to administer the program.

(2) Within 60 days of receiving the notice and transfer plan, the Administrator shall evaluate the State's transfer plan and shall identify any additional information needed by the Federal government for program administration and/or identify any other deficiencies in the plan.

(3) At least 30 days before the transfer is to occur the Administrator shall publish notice of the transfer in the FEDERAL REGISTER and in enough of the largest newspapers in the State to provide Statewide coverage, and shall mail notice to all permit holders, permit applicants, other regulated persons and other interested persons on appropriate EPA and State mailing lists.

(b) The following procedures apply when the Administrator orders the commencement of proceedings to determine whether to withdraw approval of a State program.

(1) *Order.* The Administrator may order the commencement of withdrawal proceedings on his or her own initiative or in response to a petition from an interested person alleging failure of the State to comply with the requirements of this part as set forth in § 271.22. The Administrator shall respond in writing to any petition to commence withdrawal proceedings. He

ay conduct an informal investigation f the allegations in the petition to de- ermine whether cause exists to com- ence proceedings under this para- raph. The Administrator's order com- encing proceedings under this para- raph shall fix a time and place for e commencement of the hearing and hall specify the allegations against e State which are to be considered t the hearing. Within 30 days the tate shall admit or deny these allega- ons in a written answer. The party eeking with drawal of the State's pro- ram shall have the burden of coming rward with the evidence in a hearing nder this paragraph.

(2) *Definitions.* For purposes of this aragraph the definitions of "Act", Administrative Law Judge", "Hear- g", "Hearing Clerk", and "Presiding fficer" in 40 CFR 22.03 apply in addi- on to the following:

(i) "Party" means the petitioner, the tate, the Agency and any other erson whose request to participate as party is granted.

(ii) "Person" means the Agency, the tate and any individual or organiza- on having an interest in the subject atter of the proceeding.

(iii) "Petitioner" means any person hose petition for commencement of ithdrawal proceedings has been ranted by the Administrator.

(3) *Procedures.* The following provi- ions of 40 CFR Part 22 (Consolidated ules of Practice) are applicable to roceedings under this paragraph:

(i) Section 22.02—(use of number/ ender);

(ii) Section 22.04(c)—(authorities of residing Officer);

(iii) Section 22.06—(filing/service of ulings and orders);

(iv) Section 22.07 (a) and (b)—except hat, the time for commencement of he hearing shall not be extended eyond the date set in the Administra- or's order without approval of the Ad- ministrator (computation/extension of ime);

(v) Section 22.08—however, substi- ute "order commencing proceedings" or "complaint"—(Ex Parte contacts);

(vi) Section 22.09—(examination of led documents);

(vii) Section 22.11 (a), (c) and (d), owever, motions to intervene must be filed 15 days from the date the notice of the Administrator's order is first published—(intervention);

(viii) Section 22.16 except that, service shall be in accordance with paragraph (b)(4) of this section, the first sentence in § 22.16(c) shall be deleted, and, the word "recommended" shall be substituted for the word "initial" in § 22.16(c)—(motions);

(ix) Section 22.19 (a), (b) and (c)—(prehearing conference);

(x) Section 22.22—(evidence);

(xi) Section 22.23—(objections/offers of proof);

(xii) Section 22.25—(filing the transcript); and

(xiii) Section 22.26—(findings/conclusions).

(4) *Record of proceedings.* (i) The hearing shall be either stenographically reported verbatim or tape recorded, and thereupon transcribed by an official reporter designated by the Presiding Officer;

(ii) All orders issued by the Presiding Officer, transcripts of testimony, written statements of position, stipulations, exhibits, motions, briefs, and other written material of any kind submitted in the hearing shall be a part of the record and shall be available for inspection or copying in the Office of the Hearing Clerk, 401 M Street, S.W., Washington, DC 20460;

(iii) Upon notice to all parties the Presiding Officer may authorize corrections to the transcript which involve matters of substance;

(iv) An original and two (2) copies of all written submissions to the hearing shall be filed with the Hearing Clerk;

(v) A copy of each such submission shall be served by the person making the submission upon the Presiding Officer and each party of record. Service under this paragraph shall take place by mail or personal delivery;

(vi) Every submission shall be accompanied by an acknowledgement of service by the person served or proof of service in the form of a statement of the date, time, and manner of service and the names of the persons served, certified by the person who made service; and

(vii) The Hearing Clerk shall maintain and furnish to any person upon request, a list containing the name, service address, and telephone number of all parties and their attorneys or duly authorized representatives.

(5) *Participation by a person not a party.* A person who is not a party may, at the discretion of the Presiding Officer, be permitted to make a limited appearance by makng an oral or written statement of his/her position on the issues within such limits and on such conditions as may be fixed by the Presiding Officer, but he/she may not otherwise participate in the proceeding.

(6) *Rights of parties.* All parties to the proceeding may;

(i) Appear by counsel or other representative in all hearing and pre-hearing proceedings;

(ii) Agree to stipulations of facts which shall be made a part of the record.

(7) *Recommended decision.* (i) Within 30 days after the filing of proposed findings and conclusions, and reply briefs, the Presiding Officer shall evaluate the record before him/her, the proposed findings and conclusions and any briefs filed by the parties and shall prepare a recommended decision, and shall certify the entire record, including the recommended decision, to the Administrator.

(ii) Copies of the recommended decision shall be served upon all parties.

(iii) Within 20 days after the certification and filing of the record and recommended decision, all parties may file with the Administrator exceptions to the recommended decision and a supporting brief.

(8) *Decision by Administrator.* (i) Within 60 days after the certification of the record and filing of the Presiding Officer's recommended decision, the Administrator shall review the record before him and issue his own decision.

(ii) If the Administrator concludes that the State has administered the program in conformity with the Act and regulations his decision shall constitute "final agency action" within the meaning of 5 U.S.C. 704.

(iii) If the Administrator concludes that the State has not administered the program in conformity with the Act and regulations he shall list the deficiencies in the program and provide the State a reasonable time, not to exceed 90 days, to take such appropriate corrective action as the Administrator determines necessary.

(iv) Within the time prescribed by the Administrator the State shall take such appropriate corrective action as required by the Administrator and shall file with the Administrator and all parties a statement certified by the State Director that appropriate corrective action has been taken.

(v) The Administrator may require a further showing in addition to the certified statement that corrective action has been taken.

(vi) If the State fails to take appropriate corrective action and file a certified statement thereof within the time prescribed by the Administrator, the Administrator shall issue a supplementary order withdrawing approval of the State program. If the State takes appropriate corrective action, the Administrator shall issue a supplementary order stating that approval of authority is not withdrawn.

(vii) The Administrator's supplementary order shall constitute final Agency action within the meaning of 5 U.S.C. 704.

(c) Withdrawal of authorization under this section and the Act does not relieve any person from complying with the requirements of State law, nor does it affect the validity of actions by the State prior to withdrawal.

§ 271.24 Interim authorization under section 3006(g) of RCRA.

(a) Any State which is applying for or has been granted final authorization pursuant to section 3006(b) of RCRA may submit to the Administrator evidence that its program contains (or has been amended to include) any requirement which is substantially equivalent to a requirement identified in § 271.1(j) of this chapter. Such a State may request interim authorization under section 3006(g) of RCRA to carry out the State requirement in lieu of the Administrator carrying out the Federal requirement.

(b) The applications shall be governed by the procedures for program revisions in § 271.21(b) of this chapter.

(c) Interim authorization pursuant to this section expires on January 1, 1993.

[51 FR 33722, Sept. 22, 1986]

§ 271.25 HSWA requirements.

Unless otherwise provided in Part 271, the State program shall have standards at least as stringent as the requirements and prohibitions that have taken effect under the Hazardous and Solid Waste Amendments of 1984 (HSWA).

[51 FR 33723, Sept. 22, 1986]

Subpart B—Requirements for Interim Authorization

§ 271.121 Purpose and scope.

(a) This subpart specifics requirements a State program must meet in order to obtain interim authorization under section 3006(c) of RCRA. A State must meet all the requirements of this subpart in order to qualify for interim authorization. The requirements a State program must meet in order to obtain final authorization under section 3006(b) of RCRA are specified in Subpart A. In addition, § 271.138 addresses the availability of interim authorization under section 3006(g)(2) of RCRA for States with interim authorization under section 3006(c) of RCRA.

(b) Interim Authorization of State programs under this subpart may occur in two phases. The first phase (Phase I) allows States to administer a hazardous waste program in lieu of and corresponding to that portion of the Federal program which covers identification and listing of hazardous waste (40 CFR Part 261), generators (40 CFR Part 262) and transporters (40 CFR Part 263) of hazardous wastes, and establishes preliminary (interim status) standards for hazardous waste treatment, storage and disposal facilities (40 CFR Part 265). The second phase (Phase II) allows States to administer a permit program for hazardous waste treatment, storage and disposal facilities in lieu of and corresponding to the Federal hazardous waste permit program (40 CFR Parts 270, 124 and 264), as explained in paragraph (c) of this section.

(c) Because some of the Subparts of the Federal regulations containing standards for hazardous waste treatment, storage and disposal facilities (40 CFR Part 264) will be promulgated at different times, Phase II of interim authorization will be implemented in several components.

(1) Each component of Phase II of interim authorization will correspond to specified Parts and Subparts of the Federal regulations.

(2) EPA will announce each component of Phase II of interim authorization in a Federal Register notice. The notice will announce that States may apply for interim authorization for one or more components. The notice will also provide the effective date of the component(s) and specifically identify the parts and subparts of the Federal regulations comprising the component(s).

(3) States meeting the requirements of this subpart will be allowed to administer a permit program in lieu of the corresponding Federal hazardous waste permit program for each component for which they have received interim authorization, except as provided below:

(i) Any requirement of prohibition which is applicable to the generation, transportation, treatment, storage, or disposal of hazardous waste and which is imposed pursuant to the amendments made by the Hazardous and Solid Waste Amendments of 1984 takes effect in each State having an interim authorized State program on the same date as such requirement takes effect in other States. These requirements and prohibitions are identified in § 271.1(j).

(ii) The requirements and prohibitions in § 271.1(j) supersede any less stringent provision of the State program. The Administrator is authorized to carry out each Federal requirement and prohibition identified in § 271.1(j) in an authorized State except where the State has received interim authorization under section 3006(g)(2) of RCRA to carry out the particular requirement or prohibition. Violations of Federal requirements and prohibitions effective in authorized States are enforceable under sections 3008, 3013, and 7003 of RCRA.

(iii) Until an authorized State program is revised to reflect the amendments made by the Hazardous and Solid Waste Amendments of 1984 and such program revisions receive interim authorization under section 3006(g)(2) of RCRA, the Administrator shall have the authority in such State to issue or deny permits or those portions of permits affected by the requirements and prohibitions established by the Hazardous and Solid Waste Amendments of 1984.

(d) States may apply for interim authorization either sequentially or all at once, as long as they adhere to the schedule in § 271.122. For example, States may:

(1) Apply for interim authorization for Phase I and amend that application each time a component of Phase II is announced; or

(2) Apply for interim authorization for Phase I, wait until the last component of Phase II had been announced, and amend the Phase I application at that time to include all components of Phase II; or

(3) Apply at the same time for interim authorization for Phase I and for already announced components of Phase II, and amend the application each time an additional component of Phase II is announced; or

(4) Wait until the last component of Phase II has been announced, and apply at the same time for interim authorization for Phase I and for all components of Phase II.

(e) The Administrator shall approve a State program which meets the applicable requirements of this subpart.

(f) Except as provided in paragraph (c)(3) of this section, upon approval of a State program for a component of Phase II, the Administrator shall suspend the issuance of Federal permits for those activities subject to the approved State program.

(g) Any State program approved by the Administrator under this subpart shall at all times be conducted in accordance with this subpart.

(h) Lack of authority to regulate activities on Indian lands does not impair a State's ability to obtain interim authorization under this subpart. EPA will administer the program on Indian lands if the State does not seek this authority.

NOTE: States are advised to contact the United States Department of Interior, Bureau of Indian Affairs, concerning authority over Indian lands.

(i) Nothing in this subpart precludes a State from:

(1) Adopting or enforcing requirements which are more stringent or more extensive than those required under this subpart.

(2) Operating a program with a greater scope of coverage than that required under this subpart. Where an approved program has a greater scope of coverage than required by Federal law the additional coverage is not part of the Federally approved program.

[48 FR 14248, Apr. 1, 1983; 48 FR 30115, June 30, 1983, as amended at 50 FR 28754, July 15, 1985; 51 FR 33723, Sept. 22, 1986]

§ 271.122 Schedule.

(a) Interim authorization for Phase I shall not take effect until Phase I commences. Interim authorization for each component of Phase II shall not take effect until the effective date of that component.

(b)(1) Interim authorization for Phase I and Phase II expires on January 31, 1986.

(2) At the end of this period all interim authorizations automatically expire and EPA shall administer the Federal program in any State which has not received final authorization.

(c)(1) A State may apply for interim authorization at any time prior to expiration of the 6th month of the 24-month period beginning with the effective date of the last component of Phase II. The Regional Administrator may extend the application period for good cause.

(2) A State applying for interim authorization prior to the announcement of the first component of Phase II shall apply only for interim authorization for Phase I.

(3) A State may apply for interim authorization for a component of Phase II upon the announcement of that component, provided that the State meets the requirement of paragraph (d) of this section.

(4) A State which has received interim authorization for Phase I (or interim authorization for Phase I and for some but not all of the components of Phase II) shall amend its original submission to include all of the components of Phase II not later than 6 months after the effective date of the last component of Phase II. The Regional Administrator may extend this deadline for good cause.

(d)(1) No State may apply for interim authorization for a component of Phase II unless it: (i) Has received interim authorization for Phase I; or (ii) is simultaneously applying for interim authorization for that component of Phase II and for Phase I.

(2) When a State applies for interim authorization for a particular component of Phase II, it shall demonstrate that its interim authorization program for Phase I (and, if applicable, its program for any other component of Phase II) is substantially eqivalent to the Federal program, including modifications to the Federal program, as follows:

(i) Any State already authorized for parts of the Federal program shall amend its original submission to include any additional requirements for Phase I (and any additional requirements for other Phase II components for which the State is authorized) which were promulgated on or before the announcement date of the particular Phase II component being applied for.

(ii) Any State not yet authorized for any of the Federal programs shall include in its submission those Phase I requirements which were promulgated on or before the announcement date of the particular Phase II component being applied for. Any new State program which is applying for more than one component of Phase II shall include in its submission the additional requirements for such other components which were promulgated on or before the announcement date of the particular Phase II component being applied for.

[48 FR 14248, Apr. 1, 1983, as amended at 50 FR 28755, July 15, 1985]

§ 271.123 Elements of a program submission.

(a) Any State that seeks to administer a program under this subpart shall submit to the Administrator at least three copies of a program submission. The submission shall contain the following:

(1) A letter from the Governor of the State requesting program approval;

(2) A complete program description, as required by § 271.124 describing how the State intends to carry out its responsibilities under this part;

(3) An Attorney General's statement as required by § 271.125;

(4) Memorandum of Agreement with the Regional Administrator as required by § 271.126;

(5) An authorization plan as required by § 271.127; and

(6) Copies of all applicable State statutes and regulations, including those governing State administrative procedures.

(b) Within 30 days of receipt by EPA of a State program submission, EPA will notify the State whether its submission is complete. If EPA finds that a State's submission is complete, the formal review period shall be deemed to have begun on the date of receipt of the State's submission. If EPA finds that a State's submission is incomplete, the review period shall not begin until all necessary information is received by EPA.

(c) If the State's submission is materially changed during the review period, the review period shall begin again upon receipt of the revised submission.

(d) A State simultaneously applying for interim authorization for both Phase I and a component of Phase II shall prepare a single submission.

(e) A State applying for interim authorization for a component of Phase II after receiving interim authorization for Phase I (or for Phase I and previous components of Phase II) shall amend its previous submission for interim authorization as specified in §§ 271.124 to 271.127.

§ 271.124 Program description.

Any State that seeks to administer a program under this subpart shall submit a description of the program it proposes to administer in lieu of the Federal program under State law or under an interstate compact. A State applying only for interim authorization for a component of Phase II shall amend its program description for interim authorization for Phase I (or for Phase I and previous components of Phase II) as necessary to reflect the program it proposes to administer to meet the requirements for interim authorization corresponding to the component of Phase II for which the State is applying. The program description shall include:

(a) A description in narrative form of the scope, structure, coverage and processes of the State program.

(b) A description (including organization charts) of the organization and structure of the State agency or agencies which will have responsibility for administering the program, including the information listed below. If more than one agency is responsible for administration of a program, each agency must have statewide jurisdiction over a class of activities. The responsibilities of each agency must be delineated, their procedures for coordination set forth, and an agency must be designated as a "lead agency" to facilitate communications between EPA and the State agencies having program responsibilities. When the State proposes to administer a program of greater scope of coverage than is required by Federal law, the information provided under this paragraph shall indicate the resources dedicated to administering the Federally required portion of the program.

(1) A description of the State agency staff who will carry out the State program, including the number, occupations, and general duties of the employees. The State need not submit complete job description for every employee carrying out the State program.

(2) An itemization of the estimated costs of establishing and administering the program, including cost of the personnel listed in paragraph (b)(1) of this section, cost of administrative support, and cost of technical suppor.

(3) An itemization of the sources and amounts of funding, including an estimate of Federal grant money, available to the State Director to meet the costs listed in paragraph (b)(2) of this section, identifying any restrictions or limitation upon this funding.

(c) A description of applicable State procedures, including permitting procedures and any State administrative or judicial review procedures.

[NOTE: States applying only for interim authorization for Phase I need describe permitting procedures only to the extent they will be utilized to assure compliance with standards substantially equivalent to CFR Part 265.]

(d) Copies of the permit form(s), application form(s), reporting form(s), and manifest format the State intends to employ in its program. Forms used by States need not be identical to the forms used by EPA but should require the same basic information. The State need not provide copies of uniform national forms it intends to use but should note its intention to use such forms.

(e) A complete description of the State's compliance tracking and enforcement program.

(f) A description of the State manifest tracking system, if the State has such a system and of the procedures the State will use to coordinate information with other approved State programs and the Federal program regarding interstate and international shipments.

(g) An estimate of the number of the following:

(1) Generators;

(2) Transporters; and

(3) On- and off-site storage, treatment and disposal facilities, and a brief description of the types of facilities and an indication of the permit status of these facilities.

§ 271.125 Attorney General's statement.

(a) Any State that seeks to administer a program under this subpart shall submit a statement from the Attorney General (or the attorney for those State agencies which have independent legal counsel) that the laws of the

State provide adequate authority to
arry out the program described under
271.124 and to meet the require-
nents of this subpart. This statement
hall include citations to the specific
tatutes, administrative regulations,
nd, where appropriate, judicial deci-
ions which demonstrate adequate au-
hority. Except as provided in
271.128(d), the State Attorney Gen-
ral or independent legal counsel must
ertify that the enabling legislation
or the State's program was in exist-
nce within 90 days of the announce-
nent of the last component of Phase
I. State statutes and regulations cited
y the State Attorney General or in-
ependent legal counsel shall be in the
orm of lawfully adopted State stat-
tes and regulations at the time the
tatement is signed and shall be fully
ffective by the time the program is
pproved. To qualify as "independent
egal counsel" the attorney signing the
tatement required by this section
ust have full authority to independ-
ntly represent the State agency in
ourt on all matters pertaining to the
tate program. In the case of a State
pplying only for interim authoriza-
ion for a component of Phase II, the
ttorney General's statement submit-
ed for interim authorization for
hase I (or for Phase I and previous
omponents of Phase II) shall be
mended and recertified to demon-
trate adequate authority to carry out
ll requirements of that component.

(b)(1) In the case of a State applying
or interim authorization for Phase I,
he Attorney General's statement
hall certify that the authorization
lan under § 271.127(a), if carried out,
ould provide the State with enabling
uthority and regulations adequate to
eet the requirements for final au-
horization contained in Phase I.

(2) In the case of a State applying
or interim authorization for a compo-
ent of Phase II, the Attorney Gener-
l's statement shall certify that the
uthorization plan under § 271.127(b),
carried out, would provide the State
ith enabling authority and regula-
ions adequate to meet all the require-
ents for final authorization con-
ained in that component of Phase II.

[NOTE: EPA will supply States with an Attorney General's statement format on request.]

(c) When a State seeks authority over activities on Indian lands, the statement shall contain an appropriate analysis of the State's authority.

§ 271.126 Memorandum of Agreement with the Regional Administrator.

(a) Any State that seeks to administer a program under this subpart shall submit a Memorandum of Agreement (MOA). The Memorandum of Agreement shall be executed by the State Director and the Regional Administrator and shall become effective when approved by the Administrator. In addition to meeting the requirements of paragraph (b) of this section and, if applicable, paragraph (c) of this section, the Memorandum of Agreement may include other terms, conditions, or agreements consistent with this part and relevant to the administration and enforcement of the State's regulatory program. The Administrator shall not approve any Memorandum of Agreement which contains provisions which restrict EPA's statutory oversight responsibility. In the case of a State applying for interim authorization for a component of Phase II, the Memorandum of Agreement shall be amended and reexecuted to include the requirements of paragraph (c) of this section and any necessary revisions to the requirements of paragraph (b) of this section.

(b) The Memorandum of Agreement shall include the following:

(1) Provisions for the Regional Administrator to promptly forward to the State Director information obtained prior to program approval in notifications provided under section 3010 (a) of RCRA. The Regional Administrator and the State Director shall agree on procedures for the assignment of EPA identification numbers for new generators, transporters, treatment, storage, and disposal facilities.

(2) Provisions specifying the frequency and content of reports, documents and other information which the State is required to submit to EPA. The State shall allow EPA to

routinely review State records, reports, and files relevant to the administration and enforcement of the approved program. State reports may be combined with grant reports where appropriate.

(3) Provisions on the State's compliance monitoring and enforcement program, including:

(i) Provisions for coordination of compliance monitoring activities by the State and by EPA. These may specify the basis on which the Regional Administrator will select facilities or activities within the State for EPA inspection. The Regional Administrator will normally notify the State at least 7 days before any such inspection; and

(ii) Procedures to assure coordination of enforcement activities.

(4) Provisions allowing EPA to conduct compliance inspections of all generators, transporters, and HWM facilities during interim authorization. The Regional Administrator and the State Director may agree to limitations on compliance inspections of generators, transporters, and non-major HWM facilities.

(5) No limitations on EPA compliance inspections of generators, transporters, or non-major HWM facilities under paragraph (b)(4) of this section shall restrict EPA's right to inspect any generator, transporter, or HWM facility which it has cause to believe is not compliance with RCRA; however, before conducting such an inspection, EPA will normally allow the State a reasonable opportunity to conduct a compliance evaluation inspection.

(6) Provisions delineating respective State and EPA responsibilities during the interim authorization period.

(7) Provisions for modification of the Memorandum of Agreement in accordance with this part.

(c) In addition, Memoranda of Agreement for Phase II shall also include the following, as applicable to the component of Phase II for which the State is applying:

(1) Provisions for the prompt transfer from EPA to the State of pending permit applications and any other information relevant to program operation not already in the possession of the State Director (e.g., support files for permit issuance, compliance reports, etc.). When existing permits are transferred from EPA to the State for administration, the Memorandum of Agreement shall contain provisions specifying a procedure for transferring the administration of these permits. If a State lacks the authority to directly administer permits issued by the Federal government, a procedure may be established to transfer responsibility for these permits.

(2) Provisions specifying classes and categories of permit applications and draft permits that the State Director will send to the Regional Administrator for review and comment.

(3) When appropriate, provisions for joint processing of permits by the State and EPA, for facilities or activities which require permits from both EPA and the State under different programs. See § 124.4.

(4) Provisions for the State Director to promptly forward to EPA copies of draft permits and permit applications for all major HWM facilities for review and comment. The Regional Administrator and the State Director may agree to limitations regarding review of and comment on draft permits and/or permit applications for non-major HWM facilities. The State Director shall supply EPA copies of final permits for all major HWM facilities.

[48 FR 14248, Apr. 1, 1983; 48 FR 30115, June 30, 1983]

§ 271.127 Authorization plan.

The State must submit an "authorization plan" which shall describe the additions and modifications necessary for the State program to qualify for final authorization as soon as practicable, but no later then the end of the interim authorization period. This plan shall include the nature of and schedules for any changes in State legislation and regulations; resources levels; actions the State must take to control the complete universe of hazardous waste listed or designated under section 3001 of RCRA as soon as possible; the manifest and permit systems; and the surveillance and enforcement program which will be necessary in order for the State to become eligible for final authorization.

a)(1) In the case of a State applying
ly for interim authorization for
hase I, the authorization plan shall
scribe the additions and modifica-
ons necessary for the State program
meet the requirements for final au-
orization contained in Phase I.

(2) In the case of a State applying
ly for interim authorization for a
mponent of Phase II, the authoriza-
on plan for Phase I (or for Phase I
d previous components of Phase II)
all be amended to meet the require-
ents of paragraph (b) of this section.

(b)(1) In the case of a State applying
r interim authorization for a compo-
ent of Phase II, the authorization
an shall describe the additions and
odifications necessary for the State
ogram to meet the requirements for
nal authorization corresponding to
at component of Phase II and the
quirements for final authorization
rresponding to Phase I and previous
mponents of Phase II.

(2) In the case of a State applying
r interim authorization for the last
mponent of Phase II, the authoriza-
on plan shall describe the additions
d modifications necessary for the
ate program to meet all the require-
ents for final authorization.

71.128 Program requirements for interim authorization for Phase I.

The following requirements are ap-
licable to States applying for interim
thorization for Phase I. If a State
es not have legislative authority or
gulatory control over certain activi-
es that do not occur in the State, the
ate may be granted interim authori-
tion for Phase I provided the State
thorization plan under § 271.127
ovides for the development of a
mplete program as soon as practica-
le after receiving interim authoriza-
on.

(a) Requirements for identification
d listing of hazardous waste. The
ate program must control a universe
hazardous wastes generated, trans-
orted, treated, stored, and disposed of
the State which is nearly identical
that which would be controlled by
e Federal program under 40 CFR
art 261.

(b) Requirements for generators of
azardous waste.

(1) This paragraph applies unless the State comes within the exceptions described under paragraph (d) of this section.

(2) The State program must cover all generators of hazardous waste controlled by the State.

(3) The State shall have the authority to require and shall require all generators covered by the State program to comply with reporting and recordkeeping requirements substantially equivalent to those found at 40 CFR 262.40 and 262.41.

(4) The State program must require that generators who accumulate hazardous wastes for short periods of time do so in a manner that does not present a hazard to human health or the environment.

(5) The State program shall provide requirements respecting international shipments which are substantially equivalent to those at 40 CFR 262.50, except that advance notification of international shipment, as required by 40 CFR 262.50(b)(1), shall be filed with the Administrator. The State may require that a copy of such advance notice be filed with the State Director, or may require equivalent reporting procedures.

[NOTE: Such notices shall be mailed to Hazardous Waste Export, Division for Oceans and Regulatory Affairs (A-107), U.S. Environmental Protection Agency, Washington, DC 20460.]

(6) The State program must require that such generators of hazardous waste who transport (or offer for transport) such hazardous waste offsite use a manifest system that ensures that inter-and intrastate shipments of hazardous waste are designated for delivery, and, in the case of intrastate shipments, are delivered only to facilities that are authorized to operate under an approved State program or the Federal program.

(7) The State manifest system must require that:

(i) The manifest itself identify the generator, transporter, designated facility to which the hazardous waste will be transported, and the hazardous waste being transported;

(ii) The manifest accompany all wastes offered for transport, except in the case of shipments by rail or water specified in §§ 262.23 (c) and (d) and 263.20 (e) and (f); and

(iii) Shipments of hazardous waste that are not delivered to a designated facility are either identified and reported by the generator to the State in which the shipment originated or are independently identified by the State in which the shipment originated.

(8) In the case of interstate shipments for which the manifest has not been returned, the State program must provide for notification to the State in which the facility designated on the manifest is located and to the State in which the shipment may have been delivered (or to EPA in the case of unauthorized States).

(c) Requirements for transporters of hazardous wastes.

(1) This paragraph applies unless the State comes within the exceptions described under paragraph (d) of this section.

(2) The State program must cover all transporters of hazardous waste controlled by the State.

(3) The States shall have the authority to require and shall require all transporters covered by the State program to comply with recordkeeping requirements substantially equivalent to those found at 40 CFR 263.22.

(4) The State program must require such transporters of hazardous waste to use a manifest system that ensures that inter- and intrastate shipments of hazardous waste are delivered only to facilities that are authorized under an approved State program or the Federal program.

(5) The State program must require that transportation carry the manifest with all shipments, except in the case of shipments by rail or water specified in 40 CFR 263.20 (e) and (f).

(6) For hazardous wastes that are discharged in transit, the State program must require that transporters notify appropriate State, local and Federal agencies of the discharges, and clean up the wastes or take action so that the wastes do not present a hazard to human health or the environment. These requirements shall be substantially equivalent to those found at 40 CFR 263.20 and 263.31.

(d) Limited exceptions from generator, transporter, and related manifest requirements. A State applying for interim authorization for Phase I which meets all the requirements for such interim authorization except that it does not have statutory or regulatory authority for the manifest system or other generator or transporter requirements discussed in paragraphs (b) and (c) of this section may be granted in interim authorization, if the State authorization plan under § 271.127 delineates the necessary steps for obtaining this authority no later than the end of the interim authorization period under § 271.122(b). A State may apply for interim authorization to implement the manifest system and other generator and transporter requirements if the enabling legislation for that part of the program was in existence within 90 days of the announcement of the last component of Phase II. States which received interim authorization for Phase I under the terms of this paragraph may apply for interim authorization to implement the manifest system and other generator and transporter requirements as a part of the State's submission for Phase II or as mutually agreed upon between EPA and the State. Until the State manifest system and other generator and transporter requirements are approved by EPA, all Federal requirements for generators and transporters (including use of the Federal manifest system) shall apply in such States and enforcement responsibility for that part of the program shall remain with the Federal government. The universe of wastes for which these Federal requirements apply shall be the universe of wastes controlled by the State under paragraph (a) of this section.

(e) Requirements for hazardous waste treatment, storage and disposal facilities. States must have standards applicable to HWM facilities which are substantially equivalent to 40 CFR Part 265. State law shall prohibit the operation of facilities not in compliance with such standards. These standards shall include:

(1) Prepardness for and prevention of releases of hazardous waste controlled by the State under paragraph

a) of this section and contingency plans and emergency procedures to be followed in the event of a release of such hazardous waste;

(2) Closure and post-closure requirements;

(3) Ground-water monitoring;

(4) Security to prevent unknowing and unauthorized access to the facility;

(5) Facility personnel training;

(6) Inspection, monitoring, recordkeeping, and reporting;

(7) Compliance with the manifest system including the requirement that the facility owner or operator or the State in which the facility is located must return a copy of the manifest to the generator or to the State in which the generator is located indicating delivery of the waste shipment; and

(8) Other facility standards to the extent that they are included in 40 CFR Part 265, except that Subpart R (standards for injection wells) may be included in the State standards, at the State's option.

(f) Requirements for enforcement authority. (1) Any State agency administering a program under this subpart shall have the following authority to remedy violations of State program requirements:

(i) Authority to restrain immediately by order or by suit in State court any person from engaging in any unauthorized activity which is endangering or causing damage to public health or the environment;

(ii) To sue in courts of competent jurisdiction to enjoin any threatened or continuing violation of any program requirement, including, where appropriate, permit conditions, without the necessity of a prior revocation of the permit; and

(iii) For any program violation, to assess or sue to recover in court civil penalties in at least the amount of $1000 per day or to seek criminal fines in at least the amount of $1000 per day.

(2) Any State administering a program under this subpart shall provide for public participation in the State enforcement process by providing either:

(i) Authority which allows intervention as of right in any civil action to obtain the remedies specified in paragraphs (f)(1) (ii) and (iii) of this section by any citizen having an interest which is or may be adversely affected; or

(ii)(A) Assurance by the appropriate State agency that it will investigate and provide written responses to all citizen complaints submitted pursuant to the procedures specified in paragraph (g)(5)(iv) of this section;

(B) Assurance by the appropriate State enforcement authority that it will not oppose intervention by any citizen when permissive intervention is authorized by statute, rule, or regulation; and

(C) Assurance by the appropriate State enforcement authority that it will publish notice of and provide at least 30 days for public comment on all proposed settlements of civil enforcement actions, except in cases where a settlement requires some immediate action (e.g., cleanup) which if otherwise delayed could result in substantial damage to either public health or the environment.

(g) Requirements for compliance evaluation programs.

(1) A State program under this Subpart shall have procedures for receipt, evaluation, recordkeeping, and investigation for possible enforcement of all required notices and reports.

(2) The State program shall (i) include independent State inspection and surveillance authority to determine compliance or non-compliance with applicable program requirements; or (ii) the State program shall indicate that the State will rely on and act under the inspection authority provided in section 3007(a) of RCRA.

(3) If the State is relying on independent State inspection and surveillance authority, the authority shall include authority to enter any conveyance, vehicle, facility, or premises subject to regulation or in which records relevant to program operation are kept in order to inspect, obtain samples, monitor or otherwise investigate compliance with the State program. States whose law requires a search warrant prior to entry comply with this requirement.

(4) If the State is relying on the authority in section 3007(a), the State

program must contain assurances that there are no provisions of State law which prevent the State from using that authority.

(5) The State program must include:

(i) The capability to make comprehensive surveys of any activities subject to the State Director's authority in order to identify persons subject to regulation who have failed to comply with program requirements;

(ii) A program for periodic inspection of the activities subject to regulation;

(iii) The capability to investigate evidence of violations of applicable program and permit requirements;

(iv) Procedures to determine compliance or non-compliance with applicable program requirements including procedures for receiving and ensuring proper consideration of information submitted by the public about violations. Public effort in reporting violations shall be encouraged and the State Director shall make available information on reporting procedures.

(6) Investigatory inspections shall be conducted, samples shall be taken, and other information shall be gathered in a manner (e.g., using proper "chain of custody" procedures) that will produce evidence admissible in an enforcement proceeding or in court.

(Secs. 1006, 2002(a), 3006 and 7004 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976 (RCRA), as amended, 42 U.S.C. 6905, 6912(a), 6926 and 6974)

[48 FR 14248, Apr. 1, 1983, as amended at 49 FR 7372, Feb. 29, 1984]

§ 271.129 Additional program requirements for interim authorization for Phase II.

In addition to the requirements of § 271.128, the following requirements are applicable to States applying for a component of Phase II.

(a)(1) State programs must have standards applicable to hazardous waste management facilities that provide substantially the same degree of human health and environmental protection as the standards promulgated in the Subparts of 40 CFR Part 264 comprising that component.

(2) The Administrator may authorize a State program for Phase II Components A or B, or both, even though the State program does not include liability coverage requirements, if (i) the State submitted a draft application for the component or components of Phase II interim authorization prior to April 16, 1982, and (ii) the State commits in its Memorandum of Agreement to adopt State liability coverage requirements as quickly as practicable, but in no case later than the State's application for an additional component of Phase II interim authorization.

(3) Any State which receives interim authorization for Components A or B or both without liability coverage requirements, pursuant to paragraph (a)(2) of this section, may not receive an additional component of Phase II interim authorization unless it has liability coverage requirements in effect.

(4) The Administrator may authorize a State program for Phase II Component A, even though the State program does not have standards corresponding to 40 CFR Subpart K (Surface Impoundments), if the State commits in its Memorandum of Agreement to adopt State standards substantially equivalent to 40 CFR Part 264 Subpart K no later than the State's application for the Phase II component corresponding to the Federal land disposal standards.

(5) Any State which receives interim authorization for Component A without surface impoundment standards, pursuant to paragraph (a)(4) of this section, may not receive interim authorization for the Phase II component corresponding to the Federal land disposal standards unless it has standards substantially equivalent to 40 CFR Part 264 Subpart K in effect.

(b)(1) State programs shall require a permit for owners and operators of those hazardous waste treatment, storage and disposal facilities:

(i) Corresponding to that component;

(ii) Which handle any waste controlled by the State under § 271.128(a); and

(iii) For which a permit is required under 40 CFR Part 270.

(2) The State program shall prohibit the operation of such facilities with-

out a permit, provided States may authorize owners and operators of facilities which would qualify for interim status under the Federal program (if State law so authorizes) to remain in operation pending permit action. Where State law authorizes such continued operation it shall require compliance by owners and operators of such facilities with standards substantially equivalent to EPA's interim status standards under 40 CFR Part 265.

(c) All permits issued by the State under this section shall require compliance with the standards adopted by the State in accordance with paragraph (a) of this section.

(d) State programs shall have requirements for permitting which are substantially equivalent to the provisions listed in § 271.14, except that States must have requirements equivalent to § 124.10(b)(1), (c)(1)(ix), (c)(2)(ii) and § 124.12(a).

(e) A State with interim authorization for a component of Phase II may not issue permits pursuant to that component with a term greater than ten years.

(f) State programs shall require that a facility which, under the Federal hazardous waste management program would be deemed to have a Federal permit if the conditions established in § 270.60 of this chapter are met, comply with standards at least substantially equivalent to the applicable standards in § 270.60 of this chapter. Such standards need not be imposed through issuance of a permit, but must be fully enforceable.

§ 271.130 Interstate movement of hazardous waste.

(a) If a waste is transported from a State where it is listed or designated as hazardous under the program applicable in that State, whether that is the Federal program or an approved State program, into a State with interim authorization where it is not listed or designated, the waste must be manifested in accordance with the laws of the State where the waste was generated and must be treated, stored, or disposed of as required by the laws of the State into which it has been transported.

(b) If a waste is transported from a State with interim authorization where it is not listed or designated as hazardous into a State where it is listed or designated as hazardous under the program applicable in that State, whether that is the Federal program or an approved State program, the waste must be treated, stored, or disposed of in accordance with the law applicable in the State into which it has been transported.

(c) In all cases of interstate movement of hazardous waste, as defined by 40 CFR Part 261, generators and transporters must meet DOT requirements in 49 CFR Parts 172, 173, 178, and 179 (e.g., for shipping paper, packaging, labeling, marking, and placarding).

§ 271.131 Progress reports.

The State Director shall submit a semi-annual progress report to the EPA Regional Administrator within 4 weeks of the date 6 months after Phase I commences, and at 6-month intervals thereafter until the expiration of interim authorization. The reports shall briefly summarize, in a manner and form prescribed by the Regional Administrator, the State's compliance in meeting the requirements of the authorization plan, the reasons and proposed remedies for any delay in meeting milestones, and the anticipated problems and solutions for the next reporting period.

§ 271.132 Sharing of information.

(a) Any information obtained or used in the administration of a State program shall be available to EPA upon request without restriction. If the information has been submitted to the State under a claim of confidentiality, the State must submit that claim to EPA when providing information under this subpart. Any information obtained from a State and subject to a claim of confidentiality will be treated in accordance with the regulations in 40 CFR Part 2. If EPA obtains from a State information that is not claimed to be confidential, EPA may make that information available to the public without further notice.

(b) EPA shall furnish to States with approved programs the information in its files not submitted under a claim of confidentiality which the State needs to implement its approved program. EPA shall furnish to States with approved programs information submitted to EPA under a claim of confidentiality, which the States needs to implement its approved program, subject to the conditions in 40 CFR Part 2.

§ 271.133 Coordination with other programs.

(a) Issuance of State permits under this part may be coordinated, as provided in Part 124, with issuance of UIC, NPDES, and 404 permits whether they are controlled by the State, EPA or the Corps of Engineers. See § 124.4.

(b) The State Director of any approved program which may effect the planning for the development of hazardous waste management facilities and practices shall consult and coordinate with agencies designated under section 4006(b) of RCRA (40 CFR Part 255) as responsible for the development and implementation of State and solid waste management plans under section 4002(b) of RCRA (40 CFR Part 256).

§ 271.134 EPA review of State permits.

(a) The Regional Administrator may comment on permit applications and draft permits as provided in the Memorandum of Agreement under § 271.126.

(b) Where EPA indicates, in a comment, that issuance of the permit would be inconsistent with the approved State program, EPA shall include in the comment:

(1) A statement of the reasons for the comment (including the section of RCRA or regulations promulgated thereunder that support the comment); and

(2) The actions that should be taken by the State Director in order to address the comments (including the conditions which the permit would include if it were issued by the Regional Administrator).

(c) A copy of any comment shall be sent to the permit applicant by Regional Administrator.

(d) The Regional Administrator shall withdraw such a comment when satisfied that the State has met or refuted his or her concerns.

(e) Under section 3008(a)(3) of RCRA, EPA may terminate a State-issued permit in accordance with the procedures of Part 124, Subpart E, or bring an enforcement action in accordance with the procedures of 40 CFR Part 22 in the case of a violation of a State program requirement. In exercising these authorities, EPA will observe the following conditions:

(1) The Regional Administrator may take action under section 3008(a)(3) of RCRA against a holder of a State-issued permit at any time on the ground that permittee is not complying with a condition of that permit.

(2) The Regional Administrator may take action under section 3008(a)(3) of RCRA against a holder of a State-issued permit at any time on the ground that the permittee is not complying with a condition that the Regional Administrator in commenting on the permit application or draft permit stated was necessary to implement approved State program requirements, whether or not that condition was included in the final permit.

(3) The Regional Administrator may not take action under section 3008(a)(3) of RCRA against a holder of a State-issued permit on the ground that the permittee is not complying with a condition necessary to implement approved State program requirements unless the Regional Administrator stated in commenting on the permit application or draft permit that the condition was necessary.

(4) The Regional Administrator may take action under section 7003 of RCRA against a permit holder at any time whether or not the permit holder is complying with permit conditions.

(f) Notwithstanding the above provisions, EPA shall issue permits, or portions of permits, to facilities in authorized States as necessary to implement the Hazardous and Solid Waste Amendments of 1984.

[48 FR 14248, Apr. 1, 1983, as amended at 50 FR 28755, July 15, 1985]

71.135 Approval process.

a) Within 30 days of receipt of a
nplete program submission for
ase I or for a component of Phase
of interim authorization, the Re-
nal Administrator shall:

1) Issue notice in the FEDERAL REG-
ER and in accordance with
71.20(a)(1) of a public hearing on
State's application for interim au-
rization. Such public hearing will
held by EPA no earlier than 30
ys after notice of the hearing, pro-
ed that if significant public interest
hearing is not expressed, the hear-
may be cancelled if a statement to
ffect is included in the public
ice. The State shall participate in
public hearing held by EPA.

2) Afford the public 30 days after
notice to comment on the State's
mission; and

3) Note the availability of the
te's submission for inspection and
ying by the public. The State sub-
sion shall, at a minimum, be avail-
e in the main office of the lead
te agency and in the EPA Regional
ice.

) Within 90 days of the notice in
FEDERAL REGISTER required by
agraph (a)(1) of this section, the
ministrator shall make a final de-
mination whether or not to approve
State's program, taking into ac-
nt any comments submitted. The
ministrator will give notice of this
l determination in the FEDERAL
ISTER and in accordance with
71.20(a)(1). The notification shall
lude a concise statement of the rea-
s for this determination, and a re-
nse to significant comments re-
ved.

) Where a State has received inter-
authorization for Phase I or for
ase I and for some, but not all, com-
ents of Phase II, the same proce-
es required in paragraphs (a) and
of this section shall be used in de-
mining whether the amended pro-
m submission meets the require-
nts of the Federal Program.

1.136 Withdrawal of State programs.

) The criteria and procedures for
hdrawal set forth in §§ 271.22 and
23 apply to this section.

(b) In addition to the criteria in § 271.22, State program approval may be withdrawn if a State which has obtained interim authorization fails to meet the schedule for or accomplish the additions or revisions of its program set forth in its authorization plan.

§ 271.137 Reversion of State programs.

(a) A State program approved for interim authorization for Phase I or for Phase I and some but not all components of Phase II shall terminate on the last day of the 6th month after the effective date of the last component of Phase II, and EPA shall administer and enforce the Federal program in the State commencing on that date if the State has failed to submit by that date an amended submission pursuant to § 271.122(c)(4). The Regional Administrator may extend this deadline for good cause.

(b) A State program approved for interim authorization for Phase I or for Phase I and for some but not all components of Phase II shall terminate and EPA shall administer and enforce the Federal program in the State if the Regional Administrator determines pursuant to § 271.135(c) that a program submission amended pursuant to § 271.122(c)(4) does not meet the requirements of the Federal program.

§ 271.138 Interim authorization under section 3006(g) of RCRA.

(a) Any State which, before the date of enactment of the Hazardous and Solid Waste Amendments of 1984, has an existing hazardous waste program which has been granted interim authorization for all components of Phase II may submit to the Administrator evidence that such existing program contains (or has been amended to include) any requirement which is substantially equivalent to a requirement referred to in § 271.1(j) of this chapter. Such States may request interim authorization under section 3006(g) of RCRA to carry out such requirement in lieu of the Administrator carrying out the Federal requirement in the State.

(b) Any such interim authorization under section 3006(g) expires on January 31, 1986, if a State program with interim authorization under section 3006(c) reverts to EPA on that date. See § 271.122(b)(2) of this chapter.

(Approved by the Office of Management and Budget under control number 2050-0037)

[50 FR 28755, July 15, 1985]

PART 272—APPROVED STATE HAZARDOUS WASTE MANAGEMENT PROGRAMS

Subpart A—General Provisions

Sec.
272.1 Purpose and scope.
272.2—272.49 [Reserved]

Subpart B—Alabama

272.50—272.99 [Reserved]

Subpart C—Alaska

272.100—272.149 [Reserved]

Subpart D—Arizona

272.150—272.199 [Reserved]

Subpart E—Arkansas

272.200—272.249 [Reserved]

Subpart F—California

272.250—272.299 [Reserved]

Subpart G—Colorado

272.300—272.349 [Reserved]

Subpart H—Connecticut

272.350—272.399 [Reserved]

Subpart I—Delaware

272.400 State authorization.
272.401 State-administered program: Final authorization.
272.402—272.449 [Reserved]

Subpart J—District of Columbia

272.450—272.499 [Reserved]

Subpart K—Florida

272.500—272.549 [Reserved]

Sec.

Subpart L—Georgia

272.550—272.599 [Reserved]

Subpart M—Hawaii

272.600—272.649 [Reserved]

Subpart N—Idaho

272.650—272.699 [Reserved]

Subpart O—Illinois

272.700 State authorization.
272.701 State-administered program: Fina authorization.
272.702—272.749 [Reserved]

Subpart P—Indiana

272.750 State authorization.
272.751 State-administered program: Fina authorization.
272.752—272.799 [Reserved]

Subpart Q—Iowa

272.800—272.849 [Reserved]

Subpart R—Kansas

272.850—272.899 [Reserved]

Subpart S—Kentucky

272.900—272.949 [Reserved]

Subpart T—Louisiana

272.950—272.999 [Reserved]

Subpart U—Maine

272.1000—272.1049 [Reserved]

Subpart V—Maryland

272.1050—272.1099 [Reserved]

Subpart W—Massachusetts

272.1100—272.1149 [Reserved]

Subpart X—Michigan

272.1150 State authorization.
272.1151 State-administered program Final authorization.
272.1152—272.1199 [Reserved]

Subpart Y—Minnesota

272.1200 State authorization.
272.1201 State-administered program Final authorization.
272.1202—272.1249 [Reserved]

Sec.

Subpart Z—Mississippi

272.1250—272.1299 [Reserved]

Subpart AA—Missouri

272.1300 State Authorization.
272.1301 State-administered program; Final authorization.
272.1302—272.1349 [Reserved]

Subpart BB—Montana

272.1350 State authorization.
272.1351 State-Administered Program: Final authorization.
272.1352—272.1399 [Reserved]

Subpart CC—Nebraska

272.1400—272.1449 [Reserved]

Subpart DD—Nevada

272.1450—272.1499 [Reserved]

Subpart EE—New Hampshire

272.1500—272.1549 [Reserved]

Subpart FF—New Jersey

272.1550—272.1599 [Reserved]

Subpart GG—New Mexico

272.1600—272.1649 [Reserved]

Subpart HH—New York

272.1650—272.1699 [Reserved]

Subpart II—North Carolina

272.1700—272.1749 [Reserved]

Subpart JJ—North Dakota

272.1750—272.1799 [Reserved]

Subpart KK—Ohio

272.1800 State Authorization.
272.1801 State-administered program; Final authorization.
272.1802—272.1849 [Reserved]

Subpart LL—Oklahoma

272.1850—272.1899 [Reserved]

Subpart MM—Oregon

272.1900—272.1949 [Reserved]

Subpart NN—Pennsylvania

272.1950—272.1999 [Reserved]

Sec.

Subpart OO—Rhode Island

272.2000—272.2049 [Reserved]

Subpart PP—South Carolina

272.2050—272.2099 [Reserved]

Subpart QQ—South Dakota

272.2100—272.2149 [Reserved]

Subpart RR—Tennessee

272.2150—272.2199 [Reserved]

Subpart SS—Texas

272.2200—272.2249 [Reserved]

Subpart TT—Utah

272.2250—272.2299 [Reserved]

Subpart UU—Vermont

272.2300—272.2349 [Reserved]

Subpart VV—Virginia

272.2350—272.2399 [Reserved]

Subpart WW—Washington

272.2400—272.2449 [Reserved]

Subpart XX—West Virginia

272.2450—272.2499 [Reserved]

Subpart YY—Wisconsin

272.2500 State Authorization.
272.2501 State-administered program; Final authorization.
272.2502—272.2549 [Reserved]

Subpart ZZ—Wyoming

272.2550—272.2599 [Reserved]

Subpart AAA—Guam

272.2600—272.2649 [Reserved]

Subpart BBB—Puerto Rico

272.2650—272.2699 [Reserved]

Subpart CCC—Virgin Islands

272.2700—272.2749 [Reserved]

Subpart DDD—American Samoa

272.2750—272.2799 [Reserved]

Sec.

Subpart EEE—Commonwealth of the Northern Mariana Islands

272.2800—272.2849 [Reserved]

AUTHORITY: Secs. 2002(a), 3006, and 7004(b) of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, as amended, 42 U.S.C. 6912(a), 6926, and 6974(b).

SOURCE: 51 FR 3955, Jan. 31, 1986, unless otherwise noted.

Subpart A—General Provisions

§ 272.1 Purpose and scope.

(a) This part sets forth the applicable State hazardous waste management programs under section 3006(b) of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. 6926, and 40 CFR 260.10. "State" is defined in 42 U.S.C. 1004(31) as "any of the several States, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Mariana Islands."

(b) Material incorporated by reference is available for inspection in the Library of the appropriate EPA Regional Office, in the Library of EPA Headquarters, 401 M St. SW, Washington, D.C. and at the Office of the Federal Register Information Center, Room 8301, 1100 L Street, NW, Washington, D.C.

§§ 272.2—272.49 [Reserved]

Subpart B—Alabama

§§ 272.50—272.99 [Reserved]

Subpart C—Alaska

§§ 272.100—272.149 [Reserved]

Subpart D—Arizona

§§ 272.150—272.199 [Reserved]

Subpart E—Arkansas

§§ 272.200—272.249 [Reserved]

Subpart F—California

§§ 272.250—272.299 [Reserved]

Subpart G—Colorado

§§ 272.300—272.349 [Reserved]

Subpart H—Connecticut

§§ 272.350—272.399 [Reserved]

Subpart I—Delaware

§ 272.400 State authorization.

(a) The State of Delaware is authorized to administer and enforce a hazardous waste management program in lieu of the Federal program under Subtitle C of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. 6921 *et seq.*, subject to the Hazardous and Solid Waste Act Amendments of 1984 (HSWA) (Pub. L. 98-616, November 8, 1984), 42 U.S.C. 6926 (c) and (g). The Federal program for which a State may receive authorization is defined in 40 CFR 271.9 through 271.17 and 271.21. The State's program, as administered by the Delaware Department of Natural Resources and Environmental Control, was approved by EPA pursuant to 42 U.S.C. 6926(b) and Part 271 of this chapter. EPA's approval was effective on June 22, 1984, 48 FR 23837.

(b) Delaware is not authorized to implement any HSWA requirement in lieu of EPA unless EPA has explicitly indicated its intent to do so in a FEDERAL REGISTER notice granting Delaware authorization.

(c) Delaware has primary responsibility for enforcing its hazardous waste program. However, EPA retains the authority to exercise its enforce-

ent authorities, including conducting
spections under section 3007, 42
S.C. 6927, and taking enforcement
tions under sections 3008, 3013, and
03, 42 U.S.C. 6928, 6934 and 6973, as
ell as under other Federal laws and
gulations.

(d) Delaware must revise its ap-
oved program to adopt new changes
the Federal Subtitle C program in
cordance with section 3006(b) of
CRA and 40 CFR Part 271, Subpart
Delaware must seek final authoriza-
n for all program revisions pursuant
section 3006(b) of RCRA, but, on a
mporary basis, may seek interim au-
orization for revisions required by
SWA pursuant to section 3006(g) of
CRA, 42 U.S.C. 6926(g). If Delaware
tains final authorization for the re-
ed requirements pursuant to section
06(b) of RCRA, the newly author-
d provisions will be listed in
72.401. If Delaware obtains interim
thorization for the revised require-
nts pursuant to section 3006(g), the
wly authorized provisions will be
ted in § 272.402.

72.401 State-Administered Program: Final authorization.

Pursuant to section 3006(b) of
CRA, 42 U.S.C. 6926(b), Delaware
s final authorization for the follow-
; elements as submitted to EPA in
laware's program application and
proved by EPA.

a) *State Statutes and Regulations.*
The requirements in the Delaware
tutes and regulations cited in this
ragraph are incorporated by refer-
ce and made a part of the hazardous
ste management program under
btitle C of RCRA, 42 U.S.C. 6921 *et*
. This incorporation by reference
s approved by the Director of the
DERAL REGISTER January 31, 1986.

i) 7 Delaware Code Annotated sec-
ns 6301 through 6307 and 6310
rough 6317 (1983 Replacement
lume).

ii) Delaware Department of Natural
sources and Environmental Control
gulations Governing Hazardous
ste, Parts 260 through 265, 122 and
, Order Number 83-SW-1, July 28,
3. (Copies are available from the
laware Department of Natural Resources and Environmental Control, PO Box 1401, Dover, Delaware 19901.)

(2) The following statutes and regulations, although not incorporated by reference, are part of the authorized State program.

(i) 7 Delaware Code Annotated sections 6308 and 6309 (1974 and Supp. 1983).

(ii) Delaware Administrative Procedures Act, 7 Delaware Code Annotated sections 10101 through 10161 (1974 and Supp. 1983).

(b) *Memorandum of Agreement.* The Memorandum of Agreement between EPA Region III and the Delaware Department of Natural Resources and Environmental Control, signed by the EPA Regional Administrator on December 14, 1983.

(c) *Statement of Legal Authority.* (1) "Attorney General's Statement for Final Authorization", signed by the Attorney General of Delaware of July 26, 1983.

(2) Letter from the Attorney General of Delaware to EPA, April 2, 1984.

(d) *Program Description.* The Program Description and any other materials submitted as part of the original application or as supplements thereto.

§§ 272.402—272.449 [Reserved]

Subpart J—District of Columbia

§§ 272.450—272.499 [Reserved]

Subpart K—Florida

§§ 272.500—272.549 [Reserved]

Subpart L—Georgia

§§ 272.550—272.599 [Reserved]

Subpart M—Hawaii

§§ 272.600—272.649 [Reserved]

Subpart N—Idaho

§§ 272.650—272.699 [Reserved]

Subpart O—Illinois

§ 272.700 State authorization.

(a) The State of Illinois is authorized to administer and enforce a hazardous waste management program in lieu of the Federal program under Subtitle C of the Resource Conservation and Recovery Act of 1976 (RCRA), 42 U.S.C. 6921 *et seq.*, subject to the Hazardous and Solid Waste Amendments of 1984 (HSWA), (Pub. L. 98-616, Nov. 8, 1984), 42 U.S.C. 6926(c) and (g). The Federal program for which a State may receive authorization is defined in 40 CFR Part 71. The State's base program and revisions to that program, as administered by the Illinois Environmental Protection Agency, were approved by EPA pursuant to 42 U.S.C. 6926(b) and Part 271 of this Chapter. EPA's approval of Illinois' base program was effective on January 31, 1986 (51 FR 3778, January 30, 1986). EPA's approval of revisions to Illinois' base program was effective on March 5, 1988 (53 FR 126, January 5, 1988).

(b) Illinois is authorized to implement certain HSWA requirements in lieu of EPA. EPA has explicitly indicated its intent to allow such action in a FEDERAL REGISTER notice granting Illinois authorization on January 5, 1988 (see FR 126, January 5, 1988).

(c) Illinois has primary responsibility for enforcing its hazardous waste program. However, EPA retains the authority to exercise its enforcement authorities under Sections 3007, 3008, 3013, and 7003 of RCRA, 42 U.S.C. 6927, 6928, 6934, and 6973, as well as under other Federal laws and regulations.

(d) Illinois must revise its approved program to adopt new changes to the Federal Subtitle C program in accordance with Section 3006(b) of RCRA and 40 CFR Part 271, Subpart A. Illinois must seek final authorization for all program revisions pursuant to Section 30069b) of RCRA but, on a temporary basis, may seek interim authorization for revisions required by HSWA pursuant to section 3006(g) of RCRA, 42 U.S.C. 6926(g). If Illinois obtains final authorization for the revised requirements pursuant to Section 3006(g), the newly authorized provisions will be listed in § 272.701 of this Subpart. If Illinois obtains interim authorization for the revised requirements pursuant to Section 3006(g), the newly authorized provisions will be listed in § 272.702.

[54 FR 37651, Sept. 12, 1989]

§ 272.701 State-administered program: Final authorization.

Pursuant to section 3006(b) of RCRA, 42 U.S.C. 6926(b), Illinois has final authorization for the following elements submitted to EPA in Illinois' base program and its revision application for final authorization approved by EPA effective on January 31, 1986, and March 5, 1983, respectively.

(a) *State Regulations.* (1) The following Illinois regulations are incorporated by reference and codified as part of the hazardous waste management program under Subtitle C of RCRA, 42 U.S.C. 6921 *et seq.:* Illinois Administrative Code, Title 35, Part 702, Sections 702.101-702.104, 702.110-720.187; Part 703, Sections 703.100-703.246, Part 709, Sections 709.102-709.603; Part 720, Sections 720.101-720.122, Appendix A; Part 721, Sections 721.101-721.133, Appendices A, B, C, G, H, I; Part 722, Sections 722.110-722.151; Part 723, Sections 723.110-723.131; Part 724, Sections 724.101-724.451, Appendices A, D, E; Part 725, Sections 725.101-725.530, Appendices A, D, E; and Part 729, Sections 729.100-729.321 (January 1, 1985, as amended January 1, 1986). This incorporation by reference was approved by the Director of the FEDERAL REGISTER in accordance with 5 U.S.C. 552(a). Copies of the Illinois regulations that are incorporated by reference in this paragraph are available from the Office of the Secretary of State, Index Division, 111 East Monroe Street, Springfield, Illinois 62756.

(2) The following statutes and regu-
tions concerning State enforcement
nd procedures, although not codified
erein, are part of the authorized
tate program:
(i) Illinois Revised Statutes, Chapter
11½, sections 1-5.1, sections 7-7.1,
ections 20-22, sections 22.3-22.6, sec-
ons 30-34, and section 39, subsections
d, g, k; Chapter 116, sections 201-
11; and Chapter 127, sections 1001-
021 (1986).
(ii) Illinois Administrative Code,
itle 35 Part 700, sections 700.101-
00.504; Part 702, sections 702.105-
02.109; Part 705, sections 705.101-
05.212 (January 1, 1985, as amended
anuary 1, 1986). The following statu-
ory and regulatory provisions of the
linois Administrative Code are broad-
in scope than the Federal program,
e not part of the authorized pro-
ram, and are not codified herein for
nforcement purposes.
(A) Illinois Revised Statutes, chapter
11½, sections 22.01-22.2, section 22.8,
ection 39, subsections h and i, and
ection 39.2 (1986).
(B) Illinois Administrative Code,
itle 35, Part 700, sections 700.601-
00.605; Part 704, sections 704.201-
04.240; Part 730, sections 730.101-
30.152; and Part 731, sections 731.101-
31.901.
(b) *Memorandum of Agreement.* The
lemorandum of Agreement between
PA Region V and the Illinois Envi-
onmental Protection Agency, signed
the EPA Regional Administrator
n January 21, 1986, is codified as part
the authorized hazardous waste
anagement program under Subtitle
of RCRA, 42 U.S.C. 6921, *et seq.*
(c) *Statements of Legal Authority.*
he Illinois Attorney General's State-
ents for final authorization signed
the Attorney General of Illinois on
une 4, 1985, and July 15, 1986, are
dified as part of the authorized haz-
rdous waste management program
nder Subtitle C of RCRA 42 U.S.C.
921 *et seq.*
(d) *Program Description.* Program
escriptions dated July 26, 1985, and
ugust 7, 1986, and any other materi-
s submitted as part of, or as supple-
ents to, the original application or
vision applications are codified as
rt of the authorized hazardous
aste management program under
Subtitle C of RCRA, 42 U.S.C. 6921 *et seq.*

[54 FR 37651, Sept. 12, 1989]

§§ 272.702—272.749 [Reserved]

Subpart P—Indiana

§ 272.750 State authorization.

(a) The State of Indiana is authorized to administer and enforce a hazardous waste management program in lieu of the Federal program under subtitle C of the Resource Conservation and Recovery Act of 1976 (RCRA), 42 U.S.C. 6921 *et seq.*, subject to the Hazardous and solid Waste Amendments of 1984 (HSWA), (Pub. L. 98-616, Nov. 8, 1984), 42 U.S.C. 6926(c) and (g)). The Federal program for which a State may receive authorization is defined in 40 CFR part 271. The State's base program and revisions to that program, as administered initially by the Indiana State Board of Health and later by the Indiana Department of Environmental Management, were approved by EPA pursuant to 42 U.S.C. 6926(b) and part 271 of this chapter. EPA's approval of Indiana's base program was effective on January 31, 1986. EPA's approval of revisions to Indiana's base program were effective on December 31, 1986, and January 19, 1988.

(b) Indiana is not authorized to implement any HSWA requirements in lieu of EPA unless EPA has explicitly indicated its intent to allow such action in a FEDERAL REGISTER notice granting Indiana authorization.

(c) Indiana has primary responsibility for enforcing its hazardous waste program. However, EPA retains the authority to exercise its enforcement authorities under sections 3007, 3008, 3013, and 7003 of RCRA, 42 U.S.C. 6927, 6928, 6934, and 6973, as well as under other Federal laws and regulations.

(d) Indiana must revise its approved program to adopt new changes to the Federal subtitle C program in accordance with section 3006(b) of RCRA and 40 CFR part 271, subpart A. Indiana must seek final authorization for all program revisions pursuant to section 3006(b) of RCRA but, on a temporary basis, may seek interim authorization for revisions required by HSWA pursuant to section 3006(g) of RCRA, 42 U.S.C. 6926(g). If Indiana obtains final authorization for the revised requirements pursuant to section 3006(b), the newly authorized provisions will be listed in § 272.751 of this subpart. If Indiana obtains interim authorization for the revised requirements pursuant to section 3006(g), the newly authorized provisions will be listed in § 272.752.

[54 FR 34990, Aug. 23, 1989]

§ 272.751 State-administered program: Final authorization.

Pursuant to section 3006(b) of RCRA, 42 U.S.C. 6926(b), Indiana has final authorization for the following elements submitted to EPA in Indiana's base program and base program revision applications for final authorization and approved by EPA effective on January 31, 1986, December 31, 1986, and January 19, 1988.

(a) *State Regulations.* (1) The following Indiana regulations are incorporated by reference and codified as part of the hazardous waste management program under subtitle C of RCRA, 42 U.S.C. 6921 *et seq.*: Indiana Administrative Code, title 320, articles 4.1-1-3 through 4.1-37-4, 4.1-37-6 through 4.1-39-12, and 4.1-40-1 through 4.1-54-8 (1987 Cumulative Supplement, Volume 2, as supplemented by Indiana Register, Volume 10, Number 8, pages 1563-1690, May 1, 1987). This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a). Copies of the Indiana regulations that are incorporated by reference in this paragraph are available for the Indiana Legislative Services Agency, Administrative Code and Register Division, 302 State House, Indianapolis, Indiana 46204.

(2) The following statutes and regulations concerning State enforcement, although not codified herein, are part of the authorized State program:

(i) Indiana Code, title 4, article 21.5, chapters 1 through 4; title 13, article 6, chapter 1, section 6; and title 13, article 7, chapters 1 through 7, 8.5, 10 through 13 (except for chapter 13, Section 2(a)), and 16 (effective July 1, 1987).

(ii) Indiana Administrative Code, title 320, articles 4.1-1-1, 4.1-1-2, 4.1-37-5, and 4.1-39-13 through 4.1-39-21 (1987 Cumulative Supplement, Volume 2, as supplemented by Indiana Register, Volume 10, Number 8, pages 1563-1690, May 1, 1987).

(3) The following statutory provisions of the Indiana Code are broader in scope than the Federal program, are not part of the authorized program, and are not codified herein for enforcement purposes: Indiana Code, title 13, article 7, chapter 8.7 and chapter 13, section 2(a) (effective July 1, 1987).

(b) *Memorandum of Agreement.* The Memorandum of Agreement between EPA Region V and the Indiana Department of Environmental Management, signed by the EPA Regional Administrator on July 18, 1986, is codified as part of the authorized hazardous waste management program under subtitle C of RCRA, 42 U.S.C. 6921*et seq.*

(c) *Statements of Legal Authority.* The Indiana Attorney General's Statements for final authorization signed by the Attorney General of Indiana on June 28, 1985, August 26, 1986, and June 1, 1987, are codified as part of the authorized hazardous waste management program under subtitle C of RCRA, 42 U.S.C. 6921 *et seq.*

(d) *Program Description.* Program Descriptions dated August 5, 1985, April 24, 1986, and June 29, 1987, and any other materials submitted as part of, or as supplements to, the original application or revision applications are codified as part of the authorized hazardous waste management program under subtitle C of RCRA, 42 U.S.C. 6921 *et seq.*

(e) *Letter from State Health Commissioner.* The letter from the State Health Commissioner, Indiana Board of Health to the Regional Administrator, EPA Region V dated November 4, 1985, as an addendum to the Indiana Final Authorization Application, is codified as part of the authorized hazardous waste management program under subtitle C of RCRA, 42 U.S.C. 6921 *et seq.*

[54 FR 34990, Aug. 23, 1989]

72.752—272.799 [Reserved]

Subpart Q—Iowa

72.800—272.849 [Reserved]

Subpart R—Kansas

2.850—272.899 [Reserved]

Subpart S—Kentucky

2.900—272.949 [Reserved]

Subpart T—Louisiana

2.950—272.999 [Reserved]

Subpart U—Maine

2.1000—272.1049 [Reserved]

Subpart V—Maryland

2.1050—272.1099 [Reserved]

Subpart W—Massachusetts

2.1100—272.1149 [Reserved]

Subpart X—Michigan

1150 State authorization.

The State of Michigan is author-
to administer and enforce a haz-
us waste management program in
of the Federal program under sub-
C of the Resource Conservation
Recovery Act of 1976 (RCRA), 42
C. 6921 *et seq.* subject to the Haz-
us and Solid Waste Amendments
984 (HSWA), Public Law 98-616,
mber 8, 1984), 42 U.S.C. 6926 (c)
(g). The Federal program for
h a State may receive authoriza-
is defined in 40 CFR part 271.
State's program, as administered
e Michigan Department of Natu-
Resources, was approved by EPA
ant to 42 U.S.C. 6926(b) and part
f this chapter. EPA's approval of
igan's base program was effective
ctober 30, 1986 (see 51 FR 36804).
s approval of the revisions to
igan's base program was effective
nuary 23, 1990 (see 54 FR 48608).

(b) Michigan is not authorized to implement any HSWA requirements in lieu of EPA unless EPA has explicitly indicated its intent to allow such action in a FEDERAL REGISTER notice granting Michigan authorization.

(c) Michigan has primary responsibility for enforcing its hazardous waste program. However, EPA retains the authority to exercise its enforcement authorities under sections 3007, 3008, 3013, and 7003 of RCRA, 42 U.S.C. 6927, 6928, 6934, and 6973, as well as under other Federal laws and regulations.

(d) Michigan must revise its approved program to adopt new changes to the Federal Subtitle C program in accordance with section 3006(b) of RCRA and 40 CFR Part 271, Subpart A. Michigan must seek final authorization for all program revisions, pursuant to section 3006(b) of RCRA but, on a temporary basis, may seek interim authorization for revisions required by HSWA, pursuant to section 3006(g) of RCRA, 42 U.S.C. 6926(g). If Michigan obtains final authorization for the revised requirements pursuant to section 3006(g), the newly authorized provisions will be listed in § 272.1151 of this subpart. If Michigan obtains interim authorization for the revised requirements pursuant to section 3006(g), the newly authorized provisions will be listed in § 272.1152.

[54 FR 7421, Feb. 21, 1989, as amended at 55 FR 18112, May 1, 1990]

EFFECTIVE DATE NOTE: At 55 FR 18112, May 1, 1990, § 272.1150 was amended by revising paragraphs (a) and (b), effective July 2, 1990. For the convenience of the user, the superseded text appears as follows:

§ 272.1150 State authorization.

(a) The State of Michigan is authorized to administer and enforce a hazardous waste management program in lieu of the Federal program under Subtitle C of the Resource Conservation and Recovery Act of 1976 (RCRA), 42 U.S.C. 6921 *et seq.*, subject to the Hazardous and Solid Waste Amendments of 1984 (HSWA) (Pub. L. 98-616, Nov. 8, 1984), 42 U.S.C. 6926 (c) and (g)). The Federal program for which a State may receive authorization is defined in 40 CFR Part 271. The State's program, as administered by the Michigan Department of Natural Resources, was approved by EPA, pursuant to 42 U.S.C. 6926(b) and Part 271 of this chapter. EPA's approval was published on

October 16, 1986, and was effective on October 30, 1986. (See 51 FR 36804)

(b) Michigan is not authorized to implement any HSWA requirements in lieu of EPA, unless EPA has explicitly indicated its intent to allow such action in a FEDERAL REGISTER notice, granting Michigan authorization.

* * * * *

§ 272.1151 State-administered program: Final authorization.

Pursuant to section 3006(b) of RCRA, 42 U.S.C. 6926(b), Michigan has final authorization for the following elements submitted to EPA in Michigan's base program and program revision applications for final authorization and approved by EPA effective on October 30, 1986 (see 51 FR 36804) and January 23, 1990 (see 54 FR 48608).

(a) State Statutes and Regulations. (1) The requirements in the Michigan statutes and regulations cited in this paragraph are incorporated by reference and codified as part of the hazardous waste management program under Subtitle C of RCRA, 42 U.S.C. 6921 *et seq.* This incorporation, by reference, was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a).

(i) Michigan Compiled Laws Annotated, §§ 299.501-506, 299.521-522, 299.532-535, 299.537, and 299.539-541 (P.A. 64 of 1979 as amended by P.A. 486 of 1982, effective March 30, 1983). Copies of the State laws incorporated by reference in this paragraph are available from West Publishing Co., 50 West Kellogg Boulevard, P.O. Box 64526, St. Paul, Minnesota 55164-0526.

(ii) Michigan Administrative Code Rules 299.9101-9208(1), 299.9208(3)-9209(1), 299.9209(4)-9409(5), 299.9210(2)-9211(1)(a), 299.9211(2)-9212(4), 299.9212(6)-(7), 299.9212(9)-9213(1)(a), 299.9213(1)(c), 299.9213(2), 299.9214(1)-(6)(b), 299.9215-9217, 299.9220, 299.9222, 299.9224-9225, 299.9301-9304(1)(b), 299.9304(1)(d)-9401(5), 299.9402, 299.9404(1), 299.9404(1)(b)-9405, 299.9407, 299.9409-9410, 299.9501-9504(1) introductory text 299.9504(1)(b)-9506, 299.9508-9508(1)(g), 299.9508(1)(i)-9521(1)(b), 299.9521(2)-9522, 299.9601-9611(2)(a), 299.9611(3)-9623(1), 299.9623(3)-9710, 299.9801-9804, 299.11001-11008 (1985 Annual *Michigan Administrative Code Supplement*, as supplemented by the April, 1988 *Michigan Register*, pages 3-107). Copies of the Michigan regulations which are incorporated by reference in this paragraph are available from the Legislative Service Bureau, Billie S. Farnum Building, 125 West Allegan, Post Office Box 30036, Lansing, Michigan 48909.

(2) The following statutes and regulations, although not codified herein for enforcement purposes, are part of the authorized State program.

(i) Michigan Compiled Laws Annotated, § 24.201-328 (P.A. 306 of 1969, effective July 1, 1970), §§ 299.507, 299.514-520, 299.523-528, 299.544, and 299.546-548 (P.A. 64 of 1979 as amended by P.A. 486 of 1982, effective March 30, 1983).

(ii) Michigan Administrative Code Rules 299.9521(1)(c), 299.11101-11107 (1985 Annual *Michigan Administrative Code Supplement*, as supplemented by the April, 1988 *Michigan Register*, pages 3-107).

(3) The following statutory and regulatory provisions are broader in scope than the Federal program, are not part of the authorized program, and are not codified herein for enforcement purposes.

(i) Michigan Compiled Laws Annotated, §§ 299.508-513, 299.529, 299.531, and 299.542-543 (P.A. 64 of 1979 as amended by P.A. 486 of 1982).

(ii) Michigan Administrative Code Rules 299.9208(2), 299.9209(2)-(3), 299.9210(1), 299.9211(1)(b), 299.9212(5) and (8)(a), 299.9213(1) (b) and (d), 299.9214(6)(c), 299.9218-9219, 299.9221, 299.9223, 299.9226 (1985 Annual *Michigan Administrative Code Supplement* as supplemented by the April, 1988 *Michigan Register*, pages 3-107).

(b) *Memorandum of Agreement.* The Memorandum of Agreement between EPA Region V and the Michigan Department of Natural Resources, signed by the EPA Regional Administrator on October 23, 1989, is codified as part of the authorized hazardous waste management program under subtitle C of RCRA, 42 U.S.C. 6921 *et seq.*

(c) *Statements of Legal Authority.* The "Attorney General's Statement for Final Authorization", signed by the Attorney General of Michigan on October 25, 1985, and supplements to that Statement dated June 3, 1986, September 19, 1986, and September 7, 1988, are codified as part of the authorized hazardous waste management program under subtitle C of RCRA, 42 U.S.C. 6921, *et seq.*

(d) *Program Description.* The Program Description dated June 30, 1984, and the supplements thereto dated June 30, 1986, and September 12, 1988, are codified as part of the authorized hazardous waste management program under subtitle C of RCRA, 42 U.S.C. 6921 *et seq.*

[54 FR 7421, Feb. 21, 1989, as amended at 55 FR 18113, May 1, 1990]

EFFECTIVE DATE NOTE: At 55 FR 18113, May 1, 1990, § 272.1151 was amended by revising the introductory text and paragraphs (a)(1)(ii), (2)(ii), (3)(ii), (b), (c) and (d), effective July 2, 1990. For the convenience of the user, the superseded text appears as follows:

§ 272.1151 State-administered program: Final authorization.

Pursuant to section 3006(b) of RCRA, 42 U.S.C. 6926(b): Michigan has final authorization for the following elements submitted to EPA in Michigan's program application for final authorization and approved by EPA, effective October 30, 1986. (See 51 FR 36804)

(a)* * *

(i)* * *

(ii) Michigan Administrative Code Rules 299.9101-9208(1), 299.9208(3)-9209(1), 299.9209(4)-9209(5), 299.9210(2)-9211(1)(a), 9213(1)(b), 299.9213(2)-9216, 299.9218, 299.9301-9304(1)(b), 299.9304(1)(d)-9401(5), 299.9402, 299.9404(1), 299.9404(1)(b)-9405, 299.9407, 299.9409-9410, 299.9501-9504(1), 299.9504(1)(b)-9506, 299.9508-9508(1)(g), 299.9508(1)(i)-9521(1)(b), 299.9521(2)-9522, 299.9601-9611(2)(a), 299.9611(3)-9622, 299.9623(2)-9710, 299.9801-9804, and 299.11001-11008 (1985 Annual Michigan Administrative Code Supplement). Copies of the Michigan regulations which are incorporated by reference in this paragraph are available from the Legislative Service Bureau, Billie S. Farnum Building, 125 West Allegan, Post Office Box 30036, Lansing, Michigan 48909.

(2)* * *

(ii) Michigan Administrative Code Rules 299.9521(1)(c), 299.11101-11107 (1985 Annual Michigan Administrative Code Supplement).

(3)* * *

(ii) Michigan Administrative Code Rules 299.9208(2), 299.9209(2)-(3), 299.9210(1), 299.9211(1)(b), 299.9212(5), 299.9213(1) (c) and (d), 299.9217, 299.9219-9221, 299.9304(1)(c), 299.9401(6), 299.9403, 299.9404(1)(a), 299.9406, 299.9408, 299.9411-9412, 299.9504(1)(a), 299.9507, 299.9508(1)(h), 299.9523, 299.9611(2) (b) and (c), 299.9623(1), 299.9711, and 299.9901-9906 (1985 Annual Michigan Administrative Code Supplement).

(b) Memorandum of Agreement. The Memorandum of Agreement between EPA Region V and the Michigan Department of Natural Resources, signed by the EPA Regional Administrator on September 23, 1986, is codified as part of the authorized hazardous waste management program under Subtitle C of RCRA, 42 U.S.C. 6921 *et seq.*

(c) Statement of Legal Authority. "Attorney General's Statement for Final Authorization" signed by the Attorney General of Michigan on October 25, 1985, and supplements to that Statement dated June 3, 1986, and September 19, 1986, are codified as part of the authorized hazardous waste management program under Subtitle C of RCRA, 42 U.S.C. 6921 *et seq.*

(d) Program Description. The Program Description and the supplement thereto dated August 20, 1986, are codified as part of the authorized hazardous waste management program under Subtitle C of RCRA, 42 U.S.C. 6921 *et seq.*

* * * * *

§ 272.1152—272.1199 [Reserved]

Subpart Y—Minnesota

§ 272.1200 State authorization.

(a) The State of Minnesota is authorized to administer and enforce a hazardous waste management program in lieu of the Federal program under subtitle C of the Resource Conservation and Recovery Act of 1976 (RCRA), 42 U.S.C. 6921 *et seq.* subject to the Hazardous and Solid Waste Amendments of 1984 (HSWA), (Pub. L. 98-616, November 8, 1984), 42 U.S.C. 6926 (c) and (g). The Federal program for which a State may receive authorization is defined in 40 CFR part 271. The State's program, as administered by the Minnesota Pollution Control Agency, was approved by EPA pursuant to 42 U.S.C. 6926(b) and part 271 of this chapter. EPA's approval of Minnesota's base program was effective on February 11, 1985, (see 49 FR 226). EPA's approvals of the revisions to Minnesota's base program were effective on September 18, 1987 (see 52 FR 138), and on June 23, 1989 (see 54 FR 16361).

(b) Minnesota is not authorized to implement any HSWA requirements in lieu of EPA unless EPA has explicitly indicated its intent to allow such action in a FEDERAL REGISTER notice granting Minnesota authorization. Minnesota is authorized to implement only those HSWA requirements addressed in the June 23, 1989, FR notice and codified herein.

(c) Minnesota has primary responsibility for enforcing its hazardous waste program. However, EPA retains the authority to exercise its enforcement authorities under sections 3007, 3008, 3013, and 7003 of RCRA, 42 U.S.C. 6927, 6928, 6934, and 6973, as well as under other Federal laws and regulations.

(d) Minnesota must revise its approved program to adopt new changes to the Federal Subtitle C program in accordance with section 3006(b) of RCRA and 40 CFR Part 271, Subpart A. Minnesota must seek final authorization for all program revisions pursuant to section 3006(b) of RCRA but, on a temporary basis, may seek interim authorization for revisions required by HSWA pursuant to section 3006(g) of RCRA, 42 U.S.C. 6926(g). If Minnesota obtains final authorization for the revised requirements pursuant to section 3006(b), the newly authorized provisions will be listed in § 272.1201 of this subpart. If Minnesota, in the future, obtains interim authorization for the revised requirements pursuant to section 3006(g), the newly authorized provisions will be listed in § 272.1202.

[54 FR 20852, May 15, 1989, as amended at 55 FR 9881, Mar. 16, 1990]

§ 272.1201 State-administered program: Final authorization.

Pursuant to section 3006(b) of RCRA, 42 U.S.C. 6926(b), Minnesota has final authorization for the following elements submitted to EPA in Minnesota's base program and program revision applications for final authorization and approved by EPA effective on February 11, 1985 (see 49 FR 226), September 18, 1987 (see 52 FR 138), and June 23, 1989 (see 54 FR 16361):

(a) State statutes and regulations.

(1) The requirements in the Minnesota statutes and regulations cited in this paragraph are incorporated by reference and codified as part of the hazardous waste management program under subtitle C of RCRA, 42 U.S.C. 6921 *et seq.* This incorporation by reference was approved by the Director of the FEDERAL REGISTER in accordance with 5 U.S.C. 552(a).

(i) Minnesota Statutes, chapters 13.03; 13.05 subdivision 9; 13.08; 13.37; 15.17; 15.171; 115.061; 115A.03; 116.06; 116.07 subdivisions 4, 4a, 4b, 5, and 8; 116.075; 116.081 subdivisions 1 and 3, and 116.14 (1988). Copies of the Minnesota statutory provisions that are incorporated by reference in this paragraph are available from the Print Communications Division, Minnesota Bookstore, 117 University Avenue (Ford Building), St. Paul, Minnesota 55155.

(ii) Minnesota Rules: 7001.0010; 7001.0020(B); 7001.0030-7001.0150(3)(C); 7001.0150(3)(E)-7001.0200; 7001.0500-7001.0730(2); 7001.0730(4); 7045.0020-7045.0080; 7045.0120-7045.0143; 7045.0205-7045.0270(6); 7045.0275-7045.0508; 7045.0516-7045.0685 (March 6, 1989). Copies of the Minnesota regulations that are incorporated by reference in this paragraph are available from the Print Communications Division, Minnesota Bookstore, 117 University Avenue (Ford Building), St. Paul, Minnesota 55155.

(2) The following statutes concerning State enforcement, although not codified herein for enforcement purposes, are part of the authorized State program: Minnesota Statutes 15.0411-15.052; 115.07 subdivisions 1, and 3; 115.071, 116.091; 116.11; 116B.09; and 116.075 (1988).

(3) The following statutory and regulatory provisions are broader in scope than the Federal program, are not part of the authorized program and are not codified herein for enforcement purposes.

(i) Minnesota Statutes, chapter 115A and 115A.291 (1988).

(ii) Minnesota Rules: 7001.0020(A); 7001.0020(C)-(K); 7001.0210; 7001.0730(3); 7001.0730(5); 7045.0270(7); 7045.0460(2); 7045.1010;

5.1020; 7045.1030; 7046.0020 (March
989).

b) *Memorandum of Agreement.* The
morandum of Agreement between
A-Region V, and the Minnesota
llution Control Agency, signed by
EPA Regional Administrator on
rch 16, 1989, is codified as part of
authorized hazardous waste man-
ement program under subtitle C of
RA, 42 U.S.C. 6921 *et seq.*

c) *Statements of Legal Authority.*
e Minnesota Attorney General's
tements for Final Authorization
ned by the Attorney General of
nnesota on February 2, 1988 and
vember 17, 1988, are codified as part
the authorized hazardous waste
nagement program under subtitle C
RCRA, 42 U.S.C. 6921 *et seq.*

d) *Program Description.* Program
scriptions dated June 30, 1987, and
ly 29, 1988, and any other materials
omitted as part of, or as supple-
nts to, the revision applications are
dified as part of the authorized haz-
dous waste management program
der subtitle C of RCRA, 42 U.S.C.
21 *et seq.*

FR 9881, Mar. 16, 1990]

72.1202—272.1249 [Reserved]

Subpart Z—Mississippi

72.1250—272.1299 [Reserved]

Subpart AA—Missouri

72.1300 State authorization.

a) The State of Missouri is author-
d to administer and enforce a haz-
dous waste management program in
u of the Federal program under
btitle C of the Resource Conserva-
n and Recovery Act of 1976
CRA), 42 U.S.C. 6921 *et seq.*, subject
the Hazardous and Solid Waste
nendments of 1984 (HSWA), (Pub.
98-616, Nov. 8, 1984), 42 U.S.C. 6926
and (g)). The Federal program for
ich a State may receive authoriza-
n is defined in 40 CFR Part 271.
e State's program, as administered
the Missouri Department of Natu-
Resources was approved by EPA
rsuant to 42 U.S.C. 6926(b) and Part
1 of this Chapter. EPA's approval
was effective on December 4, 1985 (50 FR 47740, November 20, 1985).

(b) Missouri is not authorized to implement any HSWA requirements in lieu of EPA unless EPA has explicitly indicated its intent to allow such action in a FEDERAL REGISTER notice granting Missouri authorization.

(c) Missouri has primary responsibility for enforcing its hazardous waste program. However, EPA retains the authority to exercise its enforcement authorities under sections 3007, 3008, 3013, and 7003 of RCRA, 42 U.S.C. 6927, 6928, 6934, and 6973, as well as under other Federal laws and regulations.

(d) Missouri must revise its approved program to adopt new changes to the Federal Subtitle C program in accordance with section 3006(b) of RCRA and 40 CFR Part 271, Subpart A. Missouri must seek final authorization for all program revisions pursuant to section 3006(b) of RCRA, but, on a temporary basis, may seek interim authorization for revisions required by HSWA pursuant to section 3006(g) of RCRA, 42 U.S.C. 6926(g). If Missouri obtains final authorization for the revised requirements pursuant to section 3006(g), the newly authorized provisions will be listed in § 272.1301 of this subpart. If Missouri obtains interim authorization for the revised requirements pursuant to section 3006(g), the newly authorized provision will be listed in § 227.1302.

[54 FR 8193, Feb. 27, 1989]

§ 272.1301 State-administered program; Final authorization.

Pursuant to section 3006(b) of RCRA, 42 U.S.C. 6926(b) Missouri has final authorization for the following elements as submitted to EPA in Missouri's program application for final authorization which was approved on November 20, 1985. Missouri submitted a program revision application on December 1, 1987, which was approved by EPA on February 27, 1989. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51. Copies may be obtained from the Waste Management Program, Missouri Department of Natural Resources, P.O. Box 176, Jefferson City, Missouri 65102. Copies may be inspected at: U.S. EPA Headquarters Library, PM 211A, 401 M Street, SW., Washington, DC 20460. Phone: 202/382-5926; U.S. EPA Region VII, Library, (Ms. Constance McKenzie) 726 Minnesota Avenue, Kansas City, Kansas 66101, 913/236-2828 and at the Office of the Federal Register, 1100 L Street NW., Room 8401, Washington, DC.

(a) *State statutes and regulations.* The requirements in the Missouri statutes and regulations cited in this paragraph are incorporated by reference and codified as part of the hazardous waste management program under Subtitle C of RCRA, 42 U.S.C. 6921 *et seq.* The specific provisions are reference in Column 1 and refer to Chapters 260 and 610 of the Revised Statutes of Missouri (1986) and to Title 10, Division 25, Chapters 3 through 8 of the Missouri Code of State Regulations (as effective on August 1, 1987). Provisions which are approved and incorporated by reference are noted in Column 2. Those provisions which duplicate EPA procedural requirements are approved as parts of the official State program but are not needed for enforcement purposes and are not incorporated by reference. They are noted in Column 3. Those provisions which are not approved because they are broader in scope than the Federal program are noted in Column 4.

Section of law or regulation (1)	Incorporated by reference (2)	Approved but not codified (3)	Not approved (4)
STATUTORY PROVISIONS			
260.350 to 260.360(11)	X		
260.360(12)			X
260.360(13) to 260.360(18)	X		
260.365 to 260.377		X	
260.378			X
260.360-1. to 260.380-1.(9)	X		
260.380-1.(10)			X
260.380-2. to 260.385 (unnumbered first paragraph)	X		
260.385(1)			X
260.385(2) to 260.390(7)	X		
260.390(8)			X
260.390(9)	X		
260.391 to 260.395-5			X
260.395-6. to 260.395-7.(4)	X		
260.395-7.(5) to 260.395-7.(6)			X
260.395-7.(7) to 260.395-18	X		
260.396			X
260.400		X	
260.405			X
260.410 to 260.420		X	
260.423 to 260.424			X
260.425 to 260.430		X	
610.010 to 610.028		X	
REGULATORY PROVISIONS			
3.260 to 3.260(1)(A)19	X		
3.260(1)(A)20			X
3.260(1)(A)21. to 3.260(1)(A)22	X		
3.260(1)(B)			X
3.260(1)(C) to 3.260(1)(D)		X	
3.260(2)	X		
4.261 to 4.261(2)(A)4	X		
4.261(2)(A)5. to 4.261(2)(D)2			X
4.261(2)(D)3	X		
5.262 to 5.262(2)(B)1	X		
5.262(2)(B)2		X	
5.262(2)(B)3. to 5.262(2)(F)	X		
5.262(2)(G)			X
6.263 to 6.263(2)(A)2	X		
6.263(2)(A)3. to 6.262(2)(A)4			X
6.263(2)(A)5. to 2.263(2)(D)	X		
7.264 to 7.264(2)(O)3	X		
7.264(2)(P)			X

Section of law or regulation (1)	Incorporated by reference (2)	Approved but not codified (3)	Not approved (4)
7.264(2)(Q)	X		
7.265	X		
7.266 to 7.266(2)(D)	X		
7.266(2)(D)1			X
7.266(2)(D)2	X		
7.266(2)(E) to 7.266(2)(G)			X
7.270 to 7.270(2)(B)6	X		
7.270(2)(B)7. to 7.270(2)(B)8			X
7.270(2)(B)9. to 7.270(2)(B)13	X		
7.270(2)(B)14			X
7.270(2)(C) to 7.270(2)(C)1.A. (The un-numbered first sentence before the phrase noted below).	X		
In 7.270(2)(C)1.A., the phrase " * * * upon payment of a fee * * * the first year."			X
7.270(2)(C)1.A. (The un-numbered second sentence) to 2.270.(2)(C)1.C	X		
7.270(2)(C)1.D		X	
7.270(2)(C)2. to 270(2)(C)2.E	X		
7.270(2)(C)2.F			X
7.270(2)(D) to 7.270(2)(G)	X		
6.010		X	

(b) *Memorandum of Agreement.* The Memorandum of Agreement between EPA Region VII and the Missouri Department of Natural Resources, signed by the EPA Regional Administrator on August 30, 1988, is codified as part of the authorized hazardous waste management program under Subtitle C of RCRA, 42 U.S.C. 6921 *et seq.*

(c) *Statement of Legal Authority.* (1) "Attorney General's Statement for Final Authorization," signed by the Attorney General of Missouri on June 27, 1985, is codified as part of the authorized hazardous waste management program under Subtitle C of RCRA, 42 U.S.C. 6921 *et seq.*

(2) "Attorney General's Statement for Final Authorization of Changes to the Federal RCRA Program," signed by the delegated Assistant Attorney General of Missouri on December 1, 1987, is codified as part of the authorized hazardous waste management program under Subtitle C of RCRA, 42 U.S.C. 6921 *et seq.*

(d) *Program Description.* The Program Description and any other materials submitted as part of the original application or as supplements thereto are codified as part of the authorized hazardous waste management program under Subtitle C of RCRA, 42 U.S.C. 6921 *et seq.*

[54 FR 8193, Feb. 27, 1989]

§§ 272.1302—272.1349 [Reserved]

Subpart BB—Montana

§ 272.1350 State authorization.

(a) The State of Montana is authorized to administer and enforce its hazardous waste management program in lieu of the program under Subtitle C of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. 6921 *et seq.*, subject to the Hazardous and Solid Waste Act Amendments of 1984 (HSWA) (Pub. L. 98-616, November 8, 1984), 42 U.S.C. 6926 (c) and (g). The Federal program for which a State may receive authorization is defined in 40 CFR 271.9 through 271.17 and 271.21. The State's program, as administered by the Montana Department of Health and Environmental Services, was approved by EPA pursuant to 42 U.S.C. 6926(b) and Part 271 of this chapter. EPA's approval was effective on July 11, 1984, 48 FR 28245.

(b) Montana is not authorized to implement any HSWA requirement in lieu of EPA unless EPA has explicitly indicated its intent to do so in a FEDERAL REGISTER notice granting Montana authorization.

(c) Montana has primary responsibility for enforcing its hazardous waste program. However, EPA retains the authority to exercise its enforcement authorities, including conducting inspections under section 3007, 42 U.S.C. 6927 and to take enforcement actions under sections 3008, 3013 and 7003, 42 U.S.C. 6928, 6934 and 6973, as well as under other Federal laws and regulations.

(d) Montana must revise its approved program to adopt new changes to the Federal Subtitle C program in accordance with section 3006(b) of RCRA and 40 CFR Part 271, Subpart A. Montana must seek final authorization for all program revisions pursuant to section 3006(b) of RCRA, but, on a temporary basis, may seek interim authorization for revisions required by HSWA pursuant to section 3006(g) of RCRA, 42 U.S.C. 6926(g). If Montana obtains final authorization for the revised requirements pursuant to section 3006(b) of RCRA, the newly authorized provisions will be listed in § 272.1351. If Montana obtains interim authorization for the revised requirements pursuant to section 3006(g), the newly authorized provisions will be listed in § 272.1352.

§ 272.1351 State-Administered Program: Final authorization.

Pursuant to section 3006(b) of RCRA, 42 U.S.C. 6926(b), Montana has final authorization for the following elements, as submitted to EPA in Montana's program application and any subsequently approved revisions thereto.

(a) *State Statutes and Regulations.* (1) The requirements in the Montana statutes and regulations cited in this paragraph are incorporated by reference and made a part of the hazardous waste management program under Subtitle C of RCRA, 42 U.S.C. 6921 *et seq.* This incorporation by reference was approved by the Director of the Office of the FEDERAL REGISTER effective January 31, 1986.

(i) Montana Hazardous Waste Act, Montana Code Annotated, sections 75-10-401 through 75-10-413 and 75-10-419 through 75-10-421 (1983).

(ii) Administrative Rules of Montana, Health and Environmental Sciences, sections 16.44.101 through 16.44.911 (1983) and amendments to sections 16.44.104, 16.44.106, 16.44.108, 16.44.109, 16.44.202, 16.44.811, 16.44.817, and 16.44.819 adopted January 16, 1984.

(2) The following statutes and re lations, although not incorporated reference, are part of the authoriz State program.

(i) Montana Hazardous Waste A Montana Code Annotated, sections 7 10-414 through 75-10-418 (1983).

(ii) Montana Public Records A Montana Code Annotated, sections 6-101 through 2-6-307 (1983).

(iii) Montana Administrative Pro dures Act, Montana Code Annotat sections 2-4-101 through 2-4-7 (1983).

(b) *Memorandum of Agreement.* T Memorandum of Agreement betwe EPA Region VIII and the Monta Department of Health and Enviro mental Services, signed by the E Regional Administrator on June 1984.

(c) *Statement of Legal Authori* Letter from the Attorney General Montana to EPA, June 7, 1984, wi attached Statement of Independe Legal Counsel, dated June 1, 1984.

(d) *Program Description.* The Pr gram Description and any other mat rials submitted as part of the origin application or as supplements theret

§§ 272.1352—272.1399 [Reserved]

Subpart CC—Nebraska

§§ 272.1400—272.1449 [Reserved]

Subpart DD—Nevada

§§ 272.1450—272.1499 [Reserved]

Subpart EE—New Hampshire

§§ 272.1500—272.1549 [Reserved]

Subpart FF—New Jersey

§§ 272.1550—272.1599 [Reserved]

Subpart GG—New Mexico

§§ 272.1600—272.1649 [Reserved]

Subpart HH—New York

§§ 272.1650—272.1699 [Reserved]

Subpart II—North Carolina

§§ 272.1700—272.1749 [Reserved]

Subpart JJ—North Dakota

§§ 272.1750—272.1799 [Reserved]

Subpart KK—Ohio

§ 272.1800 State authorization.

(a) The State of Ohio is authorized to administer and enforce a hazardous waste management program in lieu of the Federal program under Subtitle C of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. 6921*et seq.*, subject to the Hazardous and Solid Waste Amendments of 1984 (HSWA) (Pub. L. 98-616, Nov. 8, 1984), 42 U.S.C. 6926(c) and (g). The Federal program for which a State may receive authorization is defined in 40 CFR Part 271. The State's program, as administered by the Ohio Environmental Protection Agency, was approved by EPA pursuant to 42 U.S.C. 6926(b) and Part 271 of this Chapter. EPA's approval was effective on June 30, 1989. (See FEDERAL REGISTER of June 28, 1989.)

(b) Ohio is not authorized to implement any HSWA requirements in lieu of EPA unless EPA has explicitly indicated its intent to allow such action in a FEDERAL REGISTER notice granting Ohio authorization.

(c) Ohio has primary responsibility for enforcing its hazardous waste program. However, EPA retains the authority to exercise its enforcement authorities under Section 3007, 3008, 3013, and 7003 of RCRA, 42 U.S.C. 6927, 6928, 6934, and 6973, as well as under other Federal laws and regulations.

(d) Ohio must revise its approved program to adopt new changes to the Federal Subtitle C program, in accordance with section 3006(b) of RCRA and 40 CFR Part 271, Subpart A. Ohio must seek final authorization for all program revisions pursuant to section 3006(b) of RCRA but, on a temporary basis, may seek interim authorization for revisions required by HSWA pursuant to section 3006(b) of RCRA, 42 U.S.C. 6926(g). If Ohio obtains final authorization for the revised requirements pursuant to section 3006(b), the newly authorized provisions will be listed in 272.1801 of this Subpart. If Ohio in the future obtains interim authorization for the revised requirements pursuant to section 3006(g), the newly authorized provisions will be listed in § 272.1802.

[54 FR 27173, June 28, 1989]

§ 272.1801 State-administered program: final authorization.

Pursuant to section 3006(b) of RCRA, 42 U.S.C. 6926(b): Ohio has final authorization for the following elements submitted to EPA in Ohio's program application for final authorization and approved by EPA effective on June 30, 1989.

(a) State Statutes and Regulations.

(1) The following Ohio regulations are incorporated by reference and codified as part of the hazardous waste management program under Subtitle C of RCRA, 42 U.S.C. 6921 *et seq.* This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a). Ohio Administrative Code, Volume 4, Chapter 3745, Rules: 50-01; 50-03; 50-10; 50-11; 50-31 through 50-32; 50-40 through 50-44(C)(3)(j); 50-44(C)(4) through 50-44(C)(4)(k); 50-44(C)(5) through 50-44(C)(5)(h); 50-44(C)(6) through 50-44(C)(7)(i); 50-44(C)(8) through 51-03(C)(2)(b)(i); 51-03(D) through 51-03(E); 51-04 through 51-05(D)(2); 51-05(E) through 51-05(F)(2); 51-05(G) through 51-05(I); 51-06(A)(1) through 51-06(A)(3)(g); 51-06(B) through 52-20(E); 52-20 Appendix I through 52-34(C)(2); 52-40 through 52-43; 52-50

through 53-10; 53-11(D) through 53-20(G); 53-21 through 55-99; 56-20 through 56-31; 56-50 through 56-59; 56-70 through 56-82; 57-01 through 57-14(B); 57-15 through 57-17; 57-40 through 58-40; 58-43 through 58-44; 58-45(C); 58-46(C); 58-60 through 65-01(C); 65-10 through 68-14(C); 68-15 through 68-51; 68-70 through 68-82; 69-01 through 69-30 (OAC June 30, 1988, as supplemented by 1988-1989 Ohio Monthly Record, pages 430-495 (November 1988) and 848-868 (February 1989)). Copies of the Ohio regulations that are incorporated by reference in this paragraph are available from Banks-Baldwin Law Publishing Company, P.O. Box 1974, University Center, Cleveland, Ohio 44106-8697, Customer Service Department.

(2) The following statutory provisions and regulations concerning State enforcement, although not codified herein for enforcement purposes, are part of the authorized State program:

(i) Ohio Revised Code, Title 1, Chapter 119, Sections: 01 through 06.1, and 07 through 13; Ohio Revised Code, Title 1, Chapter 149, Sections 011, 43, and 44 (Page 1987); Ohio Revised Code, Title 37, Chapter 3734, Sections: 01 through 05, 07, 09 through 14.1, 16 through 17, 20 through 22, and 31 through 99 (Page, 1987).

(ii) Ohio Administrative Code, Volume 4, Chapter 3745, Rules: 49-031, 50-21 through 50-30; and 51-03(F) (OAC June 30, 1988, as supplemented by 1988-1989 Ohio Monthly Record, pages 430-495 (November 1988) and 848-868 (February 1989)).

(3) The following statutory and regulatory provisions are broader in scope than the Federal program, are not part of the authorized program, and are not codified for enforcement purposes.

(i) Ohio Revised Code, Title 37, Chapter 3734, Sections: 06, 08, 18 through 19, and 23 through 30 (Page, 1987).

(ii) Ohio Administrative Code, Volume 4, Chapter 3745, Rules: 50-33 through 50-37, and 53-11(A) through 53-11(C) (OAC June 30, 1988).

(b) Memorandum of Agreement. The Memorandum of Agreement between EPA Region V and the Ohio Environmental Protection Agency signed by the EPA Regional Administrator on March 6, 1989, is codified as part of the authorized hazardous waste management program under Subtitle C of RCRA. 42 U.S.C. 6921 *et seq.*

(c) Statement of Legal Authority. (1) "Attorney General's Statement for Final Authorization," signed by the Attorney General of Ohio on July 1, 1985, is codified as part of the authorized hazardous waste management program under Subtitle C of RCRA, 42 U.S.C. 6921 et seq.

(2) Supplemental "Attorney General's Statements for Final Authorization," and addenda to such Statements signed by the Attorney General of Ohio on December 30, 1988, and February 24, 1989, are codified as part of the authorized hazardous waste management program under Subtitle C of RCRA, 42 U.S.C. 6921 et seq.

(d) Program Description. The Program Description and any other materials submitted as part of the original application or as supplements thereto are codified as part of the authorized hazardous waste management program under Subtitle of RCRA, 42 U.S.C. 6921 et seq.

[54 FR 27173, June 28, 1989]

§§ 272.1802—272.1849 [Reserved]

Subpart LL—Oklahoma

§§ 272.1850—272.1899 [Reserved]

Subpart MM—Oregon

§§ 272.1900—272.1949 [Reserved]

Subpart NN—Pennsylvania

§§ 272.1950—272.1999 [Reserved]

Subpart OO—Rhode Island

§§ 272.2000—272.2049 [Reserved]

Subpart PP—South Carolina

§§ 272.2050—272.2099 [Reserved]

Subpart QQ—South Dakota

§§ 272.2100—272.2149 [Reserved]

Subpart RR—Tennessee

§§ 272.2150—272.2199 [Reserved]

Subpart SS—Texas

§§ 272.2200—272.2249 [Reserved]

Subpart TT—Utah

§§ 272.2250—272.2299 [Reserved]

Subpart UU—Vermont

§§ 272.2300—272.2349 [Reserved]

Subpart VV—Virginia

§§ 272.2350—272.2399 [Reserved]

Subpart WW—Washington

§§ 272.2400—272.2449 [Reserved]

Subpart XX—West Virginia

§§ 272.2450—272.2499 [Reserved]

Subpart YY—Wisconsin

§ 272.2500 State authorization.

(a) The State of Wisconsin is authorized to administer and enforce a hazardous waste management program in lieu of the Federal program under subtitle C of the Resource Conservation and Recovery Act of 1976 (RCRA), 42 U.S.C. 6921 *et seq.*, subject to the Hazardous and Solid Waste Amendments of 1984 (HSWA), (Pub. L. 98-616), November 8, 1984, 42 U.S.C. 6926 (c) and (g). The Federal program for which the State may receive authorization is defined in 40 CFR part 271. The State's program, as administered by the Wisconsin Department of Natural Resources, was approved by EPA pursuant to 42 U.S.C. 6926(b) and part 271 of this chapter. EPA's approvals were effective on January 31, 1986, June 6, 1989, and January 22, 1990 (See 51 FR 3783, 54 FR 22278, and 54 FR 48243).

(b) Wisconsin is not authorized to implement any HSWA requirements in lieu of EPA unless EPA has explicitly indicated its intent to allow such action in a FEDERAL REGISTER notice granting Wisconsin authorization.

(c) Wisconsin has primary responsibility for enforcing its hazardous waste program. However, EPA retains the authority to exercise its enforcement authorities under sections 3007, 3008, 3013, and 7003 of RCRA, 42 U.S.C. 6927, 6928, 6934, and 6973, as well as under other Federal laws and regulations.

(d) Wisconsin must revise its approved program to adopt new changes to the Federal Subtitle C program in accordance with section 3006(b) of RCRA and 40 CFR Part 271, Subpart A. Wisconsin must seek final authorization for all program revisions pursuant to section 3006(b) of RCRA but, on a temporary basis, may seek interim authorization for revisions required by HSWA pursuant to section 3006(g) of RCRA, 42 U.S.C. 6926(g). If Wisconsin obtains final authorization for the revised requirements pursuant to section 3006(g), the newly authorized provisions will be listed in 272.2501 of this Subpart. If Wisconsin obtains interim authorization for the revised requirements pursuant to section 3006(g), the newly authorized provisions will be listed in 272.2502.

[54 FR 7423, Feb. 21, 1989, as amended at 55 FR 11911, Mar. 30, 1990]

§ 272.2501 State-administered program: Final authorization.

Pursuant to section 3006(b) of RCRA, 42 U.S.C. 6926(b): Wisconsin has final authorization for the following elements submitted to EPA in Wisconsin's program applications for final authorization and approved by EPA effective January 31, 1986, June 6, 1989, and January 22, 1990.

(a) *State Statutes and Regulations.* (1) The following Wisconsin statutory provisions and regulations are incorporated by reference and codified as part of the hazardous waste management program under Subtitle C of RCRA, 42 U.S.C. 6921 *et seq.* This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a).

(i) Wisconsin Statutes, Volume 3, Sections: 144.01; 144.43-433; 144.44 (except 144.44(4)(a)); 144.441(1)-(2); 144.441(3) (b), (d), (f), and (g); 144.441(4) (a) and (c)-(g); 144.441(5) (b)-(d); 144.441(6); 144.442 (1), (4)-(11); 144.443; 144.444; 144.60-144.63; and, 144.64 (2) and (3) (except for 144.64(2)(e)(1)) (1985-86). Copies of the Wisconsin statutes that are incorporated by reference in this paragraph are available from the Revisor of Statutes, Suite 904, 30 West Mifflin Street, Madison, Wisconsin 53703.

(ii) Wisconsin Administrative Code, Volume 12, §§ NR: 181.01-181.02; 181.04-181.05; 181.06(3)-181.07; 181.09; 181.11-181.12(3); 181.12(4)(b)-181.27; 181.31(2)-181.47; 181.49-181.54; 181.55(2); 181.55(4)-181.55(10); Appendix 1; and Appendix 2 (Effective April 1, 1988). Copies of the Wisconsin regulations that are incorporated by reference in this paragraph are available from the Revisor of Statutes, suite 904, 30 West Mifflin Street, Madison, Wisconsin 53703.

(2) The following statutory and regulatory provisions concerning State enforcement, freedom of information, and public participation procedures, although not codified herein for enforcement purposes are part of the authorized State program.

(i) Wisconsin Statutes, Volume 1, §§ 19.21; 19.31; 19.32 (2) and (5); 19.35 (3) and (4); 19.36; 19.37 (1) and (2): Wisconsin Statutes, Volume 3, §§ 144.69-144.72; 144.73-144.74; 144.76 (2) and (3): Wisconsin Statutes, Volume 4 §§ 227.07; 227.09, 227.14; 227.51: and Wisconsin Statutes, Volume 5, § 803.09 (1985-86).

(ii) Wisconsin Administrative Code, Volume 1, § NR: 2.19; 2.195(1); and 2.195(5) (effective April 1, 1984): Wisconsin Administrative Code, Volume 12, § NR: 181.56 (Effective April 1, 1988).

(3) The following statutory and regulatory provisions are broader in scope than the Federal program, are not part of the authorized program, and are not codified herein for enforcement purposes.

(i) Wisconsin Statutes, Volume 3, Sections: 144.434-144.439; 144.41; 144.44(4)(a); 144.441(3) (a) (c) and (e); 144.441(4) (b) and (h); 144.441(5)(a); 144.441(7); 144.442 (2) and (3); 144.445-144.48; 144.64(1); 144.64(2)(e)(1); 144.64(4); 144.645-144.68; 144.725; 144.75-144.76(1); and 144.76(4)-144.799(6) (1985-86).

(ii) Wisconsin Administrative Code, Volume 12, Sections NR: 181.06 (1) and (2); 181.08; 181.12(4)(a); 181.31(1); 181.48; and 181.55 (1) and (3) (effective July 1, 1985).

(b) Memorandum of Agreement. The Memorandum of Agreement between EPA Region V and the Wisconsin Department of Natural Resources, signed by the EPA Deputy Regional Administrator on October 19, 1989, is codified as part of the authorized hazardous waste management program under subtitle C of RCRA, 42 U.S.C. 6921 *et seq.*

(c) *Statement of Legal Authority.* (1) "Attorney General's Statement for Final Authorization" signed by the Attorney General of Wisconsin on July 23, 1985 is codified as part of the authorized hazardous waste management program under Subtitle C of RCRA, 42 U.S.C. 6921 *et seq.*

(2) Supplemental "Attorney General's Statement for Final Authorization", signed by the Attorney General of Wisconsin on December 27, 1985, June 30, 1987, July 22, 1987, and March 29, 1988, are codified as part of the authorized hazardous waste management program under subtitle C of RCRA, 42 U.S.C. 6921 *et seq.*

(d) Program Description. The Program Description and any other materials submitted as part of the original application or as supplements thereto are codified as part of the authorized hazardous waste management program under subtitle C of RCRA, 42 U.S.C. 6921 *et seq.* The Program Description Addendums dated October 1986, June 30, 1987, July 23, 1987, March 29, 1988, and September 14, 1988, are codified as part of the authorized hazardous waste management program under subtitle C of RCRA, 42 U.S.C. 6921 *et seq.*

[54 FR 7424, Feb. 21, 1989, as amended at 55 FR 11911, Mar. 30, 1990]

§§ 272.2502—272.2549 [Reserved]

Subpart ZZ—Wyoming

§§ 272.2550—272.2599 [Reserved]

Subpart AAA—Guam

§§ 272.2600—272.2649 [Reserved]

Subpart BBB—Puerto Rico

§§ 272.2650—272.2699 [Reserved]

Subpart CCC—Virgin Islands

§§ 272.2700—272.2749 [Reserved]

Subpart DDD—American Samoa

§§ 272.2750—272.2799 [Reserved]

Subpart EEE—Commonwealth of the Northern Mariana Islands

§§ 272.2800—272.2849 [Reserved]

PART 280—TECHNICAL STANDARDS AND CORRECTIVE ACTION REQUIREMENTS FOR OWNERS AND OPERATORS OF UNDERGROUND STORAGE TANKS (UST)

Subpart A—Program Scope and Interim Prohibition

Sec.
280.10 Applicability.
280.11 Interim prohibition for deferred UST systems.
280.12 Definitions.

Subpart B—UST Systems: Design, Construction, Installation and Notification

280.20 Performance standards for new UST systems.
280.21 Upgrading of existing UST systems.
280.22 Notification requirements.

Subpart C—General Operating Requirements

280.30 Spill and overfill control.
280.31 Operation and maintenance of corrosion protection.
280.32 Compatibility.
280.33 Repairs allowed.

Sec.
280.34 Reporting and recordkeeping.

Subpart D—Release Detection

280.40 General requirements for all UST systems.
280.41 Requirements for petroleum UST systems.
280.42 Requirements for hazardous substance UST systems.
280.43 Methods of release detection for tanks.
280.44 Methods of release detection for piping.
280.45 Release detection recordkeeping.

Subpart E—Release Reporting, Investigation, and Confirmation

280.50 Reporting of suspected releases.
280.51 Investigation due to off-site impacts.
280.52 Release investigation and confirmation steps.
280.53 Reporting and cleanup of spills and overfills.

Subpart F—Release Response and Corrective Action for UST Systems Containing Petroleum or Hazardous Substances

280.60 General.
280.61 Initial response.
280.62 Initial abatement measures and site check.
280.63 Initial site characterization.
280.64 Free product removal.
280.65 Investigations for soil and groundwater cleanup.
280.66 Corrective action plan.
280.67 Public participation.

Subpart G—Out-of-Service UST Systems and Closure

280.70 Temporary closure.
280.71 Permanent closure and changes-in-service.
280.72 Assessing the site at closure or change-in-service.
280.73 Applicability to previously closed UST systems.
280.74 Closure records.

Subpart H—Financial Responsibility

280.90 Applicability.
280.91 Compliance dates.
280.92 Definition of terms.
280.93 Amount and scope of required financial responsibility.
280.94 Allowable mechanisms and combinations of mechanisms.
280.95 Financial test of self-insurance.
280.96 Guarantee.

Sec.
280.97 Insurance and risk retention group coverage.
280.98 Surety bond.
280.99 Letter of credit.
280.100 Use of state-required mechanism.
280.101 State fund or other state assurance.
280.102 Trust fund.
280.103 Standby trust fund.
280.104 Substitution of financial assurance mechanisms by owner or operator.
280.105 Cancellation or nonrenewal by a provider of financial assurance.
280.106 Reporting by owner or operator.
280.107 Recordkeeping.
280.108 Drawing on financial assurance mechanisms.
280.109 Release from the requirements.
280.110 Bankruptcy or other incapacity of owner or operator or provider of financial assurance.
280.111 Replenishment of guarantees, letters of credit, or surety bonds.
280.112 Suspension of enforcement. [Reserved]
APPENDIX I TO PART 280—NOTIFICATION FOR UNDERGROUND STORAGE TANKS (FORM).
APPENDIX II TO PART 280—LIST OF AGENCIES DESIGNATED TO RECEIVE NOTIFICATIONS.
APPENDIX III TO PART 280—STATEMENT FOR SHIPPING TICKETS AND INVOICES.

AUTHORITY: 42 U.S.C. 6912, 6991, 6991(a), 6991(b), 6991(c), 6991(d), 6991(e), 6991(f), 6991(h).

SOURCE: 53 FR 37194, Sept. 23, 1988, unless otherwise noted.

Subpart A—Program Scope and Interim Prohibition

§ 280.10 Applicability.

(a) The requirements of this part apply to all owners and operators of an UST system as defined in § 280.12 except as otherwise provided in paragraphs (b), (c), and (d) of this section. Any UST system listed in paragraph (c) of this section must meet the requirements of § 280.11.

(b) The following UST systems are excluded from the requirements of this part:

(1) Any UST system holding hazardous wastes listed or identified under Subtitle C of the Solid Waste Disposal Act, or a mixture of such hazardous waste and other regulated substances.

(2) Any wastewater treatment tank system that is part of a wastewater treatment facility regulated under section 402 or 307(b) of the Clean Water Act.

(3) Equipment or machinery that contains regulated substances for operational purposes such as hydraulic lift tanks and electrical equipment tanks.

(4) Any UST system whose capacity is 110 gallons or less.

(5) Any UST system that contains a *de minimis* concentration of regulated substances.

(6) Any emergency spill or overflow containment UST system that is expeditiously emptied after use.

(c) *Deferrals.* Subparts B, C, D, E, and G do not apply to any of the following types of UST systems:

(1) Wastewater treatment tank systems;

(2) Any UST systems containing radioactive material that are regulated under the Atomic Energy Act of 1954 (42 U.S.C. 2011 and following);

(3) Any UST system that is part of an emergency generator system at nuclear power generation facilities regulated by the Nuclear Regulatory Commission under 10 CFR Part 50, Appendix A;

(4) Airport hydrant fuel distribution systems; and

(5) UST systems with field-constructed tanks.

(d) *Deferrals.* Subpart D does not apply to any UST system that stores fuel solely for use by emergency power generators.

§ 280.11 Interim prohibition for deferred UST systems.

(a) No person may install an UST system listed in § 280.10(c) for the purpose of storing regulated substances unless the UST system (whether of single- or double-wall construction):

(1) Will prevent releases due to corrosion or structural failure for the operational life of the UST system;

(2) Is cathodically protected against corrosion, constructed of noncorrodible material, steel clad with a noncorrodible material, or designed in a manner to prevent the release or threatened release of any stored substance; and

) Is constructed or lined with ma-
al that is compatible with the
ed substance.

) Notwithstanding paragraph (a)
his section, an UST system without
rosion protection may be installed
site that is determined by a corro-
expert not to be corrosive enough
ause it to have a release due to cor-
ion during its operating life.
ners and operators must maintain
ords that demonstrate compliance
h the requirements of this para-
ph for the remaining life of the
k.

OTE: The National Association of Corro-
Engineers Standard RP-02-85, "Con-
of External Corrosion on Metallic
ied, Partially Buried, or Submerged
uid Storage Systems," may be used as
dance for complying with paragraph (b)
his section.

0.12 Definitions.

Aboveground release" means any
ease to the surface of the land or to
face water. This includes, but is not
ited to, releases from the above-
ound portion of an UST system and
oveground releases associated with
erfills and transfer operations as the
gulated substance moves to or from
UST system.

"Ancillary equipment" means any
vices including, but not limited to,
ch devices as piping, fittings,
nges, valves, and pumps used to dis-
bute, meter, or control the flow of
gulated substances to and from an
ST.

"Belowground release" means any
lease to the subsurface of the land
d to ground water. This includes,
t is not limited to, releases from the
lowground portions of an under-
ound storage tank system and be-
wground releases associated with
erfills and transfer operations as the
gulated substance moves to or from
underground storage tank.

"Beneath the surface of the ground"
eans beneath the ground surface or
herwise covered with earthen mate-
als.

"Cathodic protection" is a technique
prevent corrosion of a metal surface
making that surface the cathode of
electrochemical cell. For example, a
nk system can be cathodically pro-
tected through the application of either galvanic anodes or impressed current.

"Cathodic protection tester" means a person who can demonstrate an understanding of the principles and measurements of all common types of cathodic protection systems as applied to buried or submerged metal piping and tank systems. At a minimum, such persons must have education and experience in soil resistivity, stray current, structure-to-soil potential, and component electrical isolation measurements of buried metal piping and tank systems.

"CERCLA" means the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended.

"Compatible" means the ability of two or more substances to maintain their respective physical and chemical properties upon contact with one another for the design life of the tank system under conditions likely to be encountered in the UST.

"Connected piping" means all underground piping including valves, elbows, joints, flanges, and flexible connectors attached to a tank system through which regulated substances flow. For the purpose of determining how much piping is connected to any individual UST system, the piping that joins two UST systems should be allocated equally between them.

"Consumptive use" with respect to heating oil means consumed on the premises.

"Corrosion expert" means a person who, by reason of thorough knowledge of the physical sciences and the principles of engineering and mathematics acquired by a professional education and related practical experience, is qualified to engage in the practice of corrosion control on buried or submerged metal piping systems and metal tanks. Such a person must be accredited or certified as being qualified by the National Association of Corrosion Engineers or be a registered professional engineer who has certification or licensing that includes education and experience in corrosion control of buried or submerged metal piping systems and metal tanks.

"Dielectric material" means a material that does not conduct direct electrical current. Dielectric coatings are used to electrically isolate UST systems from the surrounding soils. Dielectric bushings are used to electrically isolate portions of the UST system (e.g., tank from piping).

"Electrical equipment" means underground equipment that contains dielectric fluid that is necessary for the operation of equipment such as transformers and buried electrical cable.

"Excavation zone" means the volume containing the tank system and backfill material bounded by the ground surface, walls, and floor of the pit and trenches into which the UST system is placed at the time of installation.

"Existing tank system" means a tank system used to contain an accumulation of regulated substances or for which installation has commenced on or before December 22, 1988. Installation is considered to have commenced if:

(a) The owner or operator has obtained all federal, state, and local approvals or permits necessary to begin physical construction of the site or installation of the tank system; and if,

(b)(1) Either a continuous on-site physical construction or installation program has begun; or,

(2) The owner or operator has entered into contractual obligations—which cannot be cancelled or modified without substantial loss—for physical construction at the site or installation of the tank system to be completed within a reasonable time.

"Farm tank" is a tank located on a tract of land devoted to the production of crops or raising animals, including fish, and associated residences and improvements. A farm tank must be located on the farm property. "Farm" includes fish hatcheries, rangeland and nurseries with growing operations.

"Flow-through process tank" is a tank that forms an integral part of a production process through which there is a steady, variable, recurring, or intermittent flow of materials during the operation of the process. Flow-through process tanks do not include tanks used for the storage of materials prior to their introduction into the production process or for the storage of finished products or by-products from the production process.

"Free product" refers to a regulated substance that is present as a non-aqueous phase liquid (e.g., liquid not dissolved in water.)

"Gathering lines" means any pipeline, equipment, facility, or building used in the transportation of oil or gas during oil or gas production or gathering operations.

"Hazardous substance UST system" means an underground storage tank system that contains a hazardous substance defined in section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (but not including any substance regulated as a hazardous waste under subtitle C) or any mixture of such substances and petroleum, and which is not a petroleum UST system.

"Heating oil" means petroleum that is No. 1, No. 2, No. 4—light, No. 4—heavy, No. 5—light, No. 5—heavy, and No. 6 technical grades of fuel oil; other residual fuel oils (including Navy Special Fuel Oil and Bunker C); and other fuels when used as substitutes for one of these fuel oils. Heating oil is typically used in the operation of heating equipment, boilers, or furnaces.

"Hydraulic lift tank" means a tank holding hydraulic fluid for a closed-loop mechanical system that uses compressed air or hydraulic fluid to operate lifts, elevators, and other similar devices.

"Implementing agency" means EPA, or, in the case of a state with a program approved under section 9004 (or pursuant to a memorandum of agreement with EPA), the designated state or local agency responsible for carrying out an approved UST program.

"Liquid trap" means sumps, well cellars, and other traps used in association with oil and gas production, gathering, and extraction operations (including gas production plants), for the purpose of collecting oil, water, and other liquids. These liquid traps may temporarily collect liquids for subsequent disposition or reinjection into a production or pipeline stream, or may collect and separate liquids from a gas stream.

"Maintenance" means the normal perational upkeep to prevent an unerground storage tank system from eleasing product.

"Motor fuel" means petroleum or a etroleum-based substance that is otor gasoline, aviation gasoline, No. or No. 2 diesel fuel, or any grade of asohol, and is typically used in the peration of a motor engine.

"New tank system" means a tank ystem that will be used to contain an ccumulation of regulated substances nd for which installation has comenced after December 22, 1988. (See lso "Existing Tank System.")

"Noncommercial purposes" with repect to motor fuel means not for esale.

"On the premises where stored" ith respect to heating oil means UST ystems located on the same property here the stored heating oil is used.

"Operational life" refers to the eriod beginning when installation of he tank system has commenced until he time the tank system is properly losed under Subpart G.

"Operator" means any person in ontrol of, or having responsibility for, he daily operation of the UST ystem.

"Overfill release" is a release that ccurs when a tank is filled beyond its apacity, resulting in a discharge of he regulated substance to the environment.

"Owner" means:

(a) In the case of an UST system in use on November 8, 1984, or brought into use after that date, any person who owns an UST system used for storage, use, or dispensing of regulated substances; and

(b) In the case of any UST system in use before November 8, 1984, but no longer in use on that date, any person who owned such UST immediately before the discontinuation of its use.

"Person" means an individual, trust, firm, joint stock company, Federal agency, corporation, state, municipality, commission, political subdivision of a state, or any interstate body. "Person" also includes a consortium, a joint venture, a commercial entity, and the United States Government.

"Petroleum UST system" means an underground storage tank system that contains petroleum or a mixture of petroleum with *de minimis* quantities of other regulated substances. Such systems include those containing motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents, and used oils.

"Pipe" or "Piping" means a hollow cylinder or tubular conduit that is constructed of non-earthen materials.

"Pipeline facilities (including gathering lines)" are new and existing pipe rights-of-way and any associated equipment, facilities, or buildings.

"Regulated substance" means:

(a) Any substance defined in section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 (but not including any substance regulated as a hazardous waste under subtitle C), and

(b) Petroleum, including crude oil or any fraction thereof that is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute).

The term "regulated substance" includes but is not limited to petroleum and petroleum-based substances comprised of a complex blend of hydrocarbons derived from crude oil though processes of separation, conversion, upgrading, and finishing, such as motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents, and used oils.

"Release" means any spilling, leaking, emitting, discharging, escaping, leaching or disposing from an UST into ground water, surface water or subsurface soils.

"Release detection" means determining whether a release of a regulated substance has occurred from the UST system into the environment or into the interstitial space between the UST system and its secondary barrier or secondary containment around it.

"Repair" means to restore a tank or UST system component that has caused a release of product from the UST system.

"Residential tank" is a tank located on property used primarily for dwelling purposes.

"SARA" means the Superfund Amendments and Reauthorization Act of 1986.

"Septic tank" is a water-tight covered receptacle designed to receive or process, through liquid separation or biological digestion, the sewage discharged from a building sewer. The effluent from such receptacle is distributed for disposal through the soil and settled solids and scum from the tank are pumped out periodically and hauled to a treatment facility.

"Storm-water or wastewater collection system" means piping, pumps, conduits, and any other equipment necessary to collect and transport the flow of surface water run-off resulting from precipitation, or domestic, commercial, or industrial wastewater to and from retention areas or any areas where treatment is designated to occur. The collection of storm water and wastewater does not include treatment except where incidental to conveyance.

"Surface impoundment" is a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials) that is not an injection well.

"Tank" is a stationary device designed to contain an accumulation of regulated substances and constructed of non-earthen materials (e.g., concrete, steel, plastic) that provide structural support.

"Underground area" means an underground room, such as a basement, cellar, shaft or vault, providing enough space for physical inspection of the exterior of the tank situated on or above the surface of the floor.

"Underground release" means any belowground release.

"Underground storage tank" or "UST" means any one or combination of tanks (including underground pipes connected thereto) that is used to contain an accumulation of regulated substances, and the volume of which (including the volume of underground pipes connected thereto) is 10 percent or more beneath the surface of the ground. This term does not include any:

(a) Farm or residential tank of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes;

(b) Tank used for storing heating oil for consumptive use on the premises where stored;

(c) Septic tank;

(d) Pipeline facility (including gathering lines) regulated under:

(1) The Natural Gas Pipeline Safety Act of 1968 (49 U.S.C. App. 1671, *et seq.*), or

(2) The Hazardous Liquid Pipeline Safety Act of 1979 (49 U.S.C. App. 2001, *et seq.*), or

(3) Which is an intrastate pipeline facility regulated under state laws comparable to the provisions of the law referred to in paragraph (d)(1) or (d)(2) of this definition;

(e) Surface impoundment, pit, pond, or lagoon;

(f) Storm-water or wastewater collection system;

(g) Flow-through process tank;

(h) Liquid trap or associated gathering lines directly related to oil or gas production and gathering operations; or

(i) Storage tank situated in an underground area (such as a basement, cellar, mineworking, drift, shaft, or tunnel) if the storage tank is situated upon or above the surface of the floor.

The term "underground storage tank" or "UST" does not include any pipes connected to any tank which is described in paragraphs (a) through (i) of this definition.

"Upgrade" means the addition or retrofit of some systems such as cathodic protection, lining, or spill and overfill controls to improve the ability of an underground storage tank system to prevent the release of product.

"UST system" or "Tank system" means an underground storage tank, connected underground piping, underground ancillary equipment, and containment system, if any.

"Wastewater treatment tank" means a tank that is designed to receive and treat an influent wastewater through physical, chemical, or biological methods.

bpart B—UST Systems: Design, Construction, Installation and Notification

280.20 Performance standards for new UST systems.

In order to prevent releases due to ructural failure, corrosion, or spills nd overfills for as long as the UST ystem is used to store regulated sub- ances, all owners and operators of ew UST systems must meet the fol- wing requirements.

(a) *Tanks.* Each tank must be prop- rly designed and constructed, and ny portion underground that routine- contains product must be protected rom corrosion, in accordance with a ode of practice developed by a nation- lly recognized association or inde- endent testing laboratory as specified elow:

(1) The tank is constructed of fiber- lass-reinforced plastic; or

NOTE: The following industry codes may e used to comply with paragraph (a)(1) of his section: Underwriters Laboratories tandard 1316, "Standard for Glass- Fiber- einforced Plastic Underground Storage anks for Petroleum Products"; Underwrit- r's Laboratories of Canada CAN4-S615- 83, "Standard for Reinforced Plastic Un- erground Tanks for Petroleum Products"; r American Society of Testing and Materi- ls Standard D4021-86, "Standard Specifica- ion for Glass-Fiber-Reinforced Polyester nderground Petroleum Storage Tanks."

(2) The tank is constructed of steel nd cathodically protected in the fol- owing manner:

(i) The tank is coated with a suitable ielectric material;

(ii) Field-installed cathodic protec- ion systems are designed by a corro- ion expert;

(iii) Impressed current systems are esigned to allow determination of urrent operating status as required in § 280.31(c); and

(iv) Cathodic protection systems are operated and maintained in accord- ance with § 280.31 or according to guidelines established by the imple- menting agency; or

NOTE: The following codes and standards may be used to comply with paragraph (a)(2) of this section:

(A) Steel Tank Institute "Specification for STI-P3 System of External Corrosion Protection of Underground Steel Storage Tanks";

(B) Underwriters Laboratories Standard 1746, "Corrosion Protection Systems for Underground Storage Tanks";

(C) Underwriters Laboratories of Canada CAN4-S603-M85, "Standard for Steel Underground Tanks for Flammable and Combustible Liquids," and CAN4-G03.1-M85, "Standard for Galvanic Corrosion Protection Systems for Underground Tanks for Flammable and Combustible Liquids," and CAN4-S631-M84, "Isolating Bushings for Steel Underground Tanks Protected with Coatings and Galvanic Systems"; or

(D) National Association of Corrosion Engineers Standard RP-02-85, "Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems," and Underwriters Laboratories Standard 58, "Standard for Steel Underground Tanks for Flammable and Combustible Liquids."

(3) The tank is constructed of a steel-fiberglass-reinforced-plastic composite; or

NOTE: The following industry codes may be used to comply with paragraph (a)(3) of this section: Underwriters Laboratories Standard 1746, "Corrosion Protection Systems for Underground Storage Tanks," or the Association for Composite Tanks ACT-100, "Specification for the Fabrication of FRP Clad Underground Storage Tanks."

(4) The tank is constructed of metal without additional corrosion protection measures provided that:

(i) The tank is installed at a site that is determined by a corrosion expert not to be corrosive enough to cause it to have a release due to corrosion during its operating life; and

(ii) Owners and operators maintain records that demonstrate compliance with the requirements of paragraphs (a)(4)(i) for the remaining life of the tank; or

(5) The tank construction and corrosion protection are determined by the implementing agency to be designed to prevent the release or threatened release of any stored regulated substance in a manner that is no less protective of human health and the environment than paragraphs (a) (1) through (4) of this section.

(b) *Piping.* The piping that routinely contains regulated substances and is in contact with the ground must be properly designed, constructed, and protected from corrosion in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory as specified below:

(1) The piping is constructed of fiberglass-reinforced plastic; or

NOTE: The following codes and standards may be used to comply with paragraph (b)(1) of this section:

(A) Underwriters Laboratories Subject 971, "UL Listed Non-Metal Pipe";

(B) Underwriters Laboratories Standard 567, "Pipe Connectors for Flammable and Combustible and LP Gas";

(C) Underwriters Laboratories of Canada Guide ULC-107, "Glass Fiber Reinforced Plastic Pipe and Fittings for Flammable Liquids"; and

(D) Underwriters Laboratories of Canada Standard CAN 4-S633-M81, "Flexible Underground Hose Connectors."

(2) The piping is constructed of steel and cathodically protected in the following manner:

(i) The piping is coated with a suitable dielectric material;

(ii) Field-installed cathodic protection systems are designed by a corrosion expert;

(iii) Impressed current systems are designed to allow determination of current operating status as required in § 280.31(c); and

(iv) Cathodic protection systems are operated and maintained in accordance with § 280.31 or guidelines established by the implementing agency; or

NOTE: The following codes and standards may be used to comply with paragraph (b)(2) of this section:

(A) National Fire Protection Association Standard 30, "Flammable and Combustible Liquids Code";

(B) American Petroleum Institute Publication 1615, "Installation of Underground Petroleum Storage Systems";

(C) American Petroleum Institute Publication 1632, "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems"; and

(D) National Association of Corrosion Engineers Standard RP-01-69, "Control of External Corrosion on Submerged Metallic Piping Systems."

(3) The piping is constructed of metal without additional corrosion protection measures provided that:

(i) The piping is installed at a site that is determined by a corrosion expert to not be corrosive enough to cause it to have a release due to corrosion during its operating life; and

(ii) Owners and operators maintain records that demonstrate compliance with the requirements of paragraph (b)(3)(i) of this section for the remaining life of the piping; or

NOTE: National Fire Protection Association Standard 30, "Flammable and Combustible Liquids Code"; and National Association of Corrosion Engineers Standard RP-01-69, "Control of External Corrosion on Submerged Metallic Piping Systems," may be used to comply with paragraph (b)(3) of this section.

(4) The piping construction and corrosion protection are determined by the implementing agency to be designed to prevent the release or threatened release of any stored regulated substance in a manner that is no less protective of human health and the environment than the requirements in paragraphs (b) (1) through (3) of this section.

(c) *Spill and overfill prevention equipment.* (1) Except as provided in paragraph (c)(2) of this section, to prevent spilling and overfilling associated with product transfer to the UST system, owners and operators must use the following spill and overfill prevention equipment:

(i) Spill prevention equipment that will prevent release of product to the environment when the transfer hose is detached from the fill pipe (for example, a spill catchment basin); and

(ii) Overfill prevention equipment that will:

(A) Automatically shut off flow into the tank when the tank is no more than 95 percent full; or

(B) Alert the transfer operator when the tank is no more than 90 percent full by restricting the flow into the tank or triggering a high-level alarm.

(2) Owners and operators are not required to use the spill and overfill prevention equipment specified in paragraph (c)(1) of this section if:

(i) Alternative equipment is used that is determined by the implementing agency to be no less protective of human health and the environment than the equipment specified in paragraph (c)(1) (i) or (ii) of this section; or

(ii) The UST system is filled by transfers of no more than 25 gallons at one time.

(d) *Installation.* All tanks and piping must be properly installed in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory and in accordance with the manufacturer's instructions.

NOTE: Tank and piping system installation practices and procedures described in the following codes may be used to comply with the requirements of paragraph (d) of this section:

(i) American Petroleum Institute Publication 1615, "Installation of Underground Petroleum Storage System"; or

(ii) Petroleum Equipment Institute Publication RP100, "Recommended Practices for Installation of Underground Liquid Storage Systems"; or

(iii) American National Standards Institute Standard B31.3, "Petroleum Refinery Piping," and American National Standards Institute Standard B31.4 "Liquid Petroleum Transportation Piping System."

(e) *Certification of installation.* All owners and operators must ensure that one or more of the following methods of certification, testing, or inspection is used to demonstrate compliance with paragraph (d) of this section by providing a certification of compliance on the UST notification form in accordance with § 280.22.

(1) The installer has been certified by the tank and piping manufacturers; or

(2) The installer has been certified or licensed by the implementing agency; or

(3) The installation has been inspected and certified by a registered professional engineer with education and experience in UST system installation; or

(4) The installation has been inspected and approved by the implementing agency; or

(5) All work listed in the manufacturer's installation checklists has been completed; or

(6) The owner and operator have complied with another method for ensuring compliance with paragraph (d) of this section that is determined by the implementing agency to be no less protective of human health and the environment.

§ 280.21 Upgrading of existing UST systems.

(a) *Alternatives allowed.* Not later than December 22, 1998, all existing UST systems must comply with one of the following requirements:

(1) New UST system performance standards under § 280.20;

(2) The upgrading requirements in paragraphs (b) through (d) of this section; or

(3) Closure requirements under Subpart G of this part, including applicable requirements for corrective action under Subpart F.

(b) *Tank upgrading requirements.* Steel tanks must be upgraded to meet one of the following requirements in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory:

(1) *Interior lining.* A tank may be upgraded by internal lining if:

(i) The lining is installed in accordance with the requirements of § 280.33, and

(ii) Within 10 years after lining, and every 5 years thereafter, the lined tank is internally inspected and found to be structurally sound with the lining still performing in accordance with original design specifications.

(2) *Cathodic protection.* A tank may be upgraded by cathodic protection if the cathodic protection system meets the requirements of § 280.20(a)(2) (ii), (iii), and (iv) and the integrity of the tank is ensured using one of the following methods:

(i) The tank is internally inspected and assessed to ensure that the tank is structurally sound and free of corrosion holes prior to installing the cathodic protection system; or

(ii) The tank has been installed for less than 10 years and is monitored monthly for releases in accordance with § 280.43 (d) through (h); or

(iii) The tank has been installed for less than 10 years and is assessed for corrosion holes by conducting two (2) tightness tests that meet the requirements of § 280.43(c). The first tightness test must be conducted prior to installing the cathodic protection system. The second tightness test must be conducted between three (3) and six (6) months following the first operation of the cathodic protection system; or

(iv) The tank is assessed for corrosion holes by a method that is determined by the implementing agency to prevent releases in a manner that is no less protective of human health and the environment than paragraphs (b)(2) (i) through (iii) of this section.

(3) *Internal lining combined with cathodic protection.* A tank may be upgraded by both internal lining and cathodic protection if:

(i) The lining is installed in accordance with the requirements of § 280.33; and

(ii) The cathodic protection system meets the requirements of § 280.20(a)(2) (ii), (iii), and (iv).

NOTE: The following codes and standards may be used to comply with this section:

(A) American Petroleum Institute Publication 1631, "Recommended Practice for the Interior Lining of Existing Steel Underground Storage Tanks";

(B) National Leak Prevention Association Standard 631, "Spill Prevention, Minimum 10 Year Life Extension of Existing Steel Underground Tanks by Lining Without the Addition of Cathodic Protection";

(C) National Association of Corrosion Engineers Standard RP-02-85, "Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems"; and

(D) American Petroleum Institute Publication 1632, "Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems."

(c) *Piping upgrading requirements.* Metal piping that routinely contains regulated substances and is in contact with the ground must be cathodically protected in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory and must meet the requirements of § 280.20(b)(2) (ii), (iii), and (iv).

NOTE: The codes and standards listed in the note following § 280.20(b)(2) may be used to comply with this requirement.

(d) *Spill and overfill prevention equipment.* To prevent spilling and overfilling associated with product transfer to the UST system, all existing UST systems must comply with new UST system spill and overfill prevention equipment requirements specified in § 280.20(c).

§ 280.22 Notification requirements.

(a) Any owner who brings an underground storage tank system into us after May 8, 1986, must within 30 day of bringing such tank into use, submi in the form prescribed in Appendix of this part, a notice of existence o such tank system to the state or loca agency or department designated i Appendix II of this part to receiv such notice.

NOTE: Owners and operators of UST sy tems that were in the ground on or aft May 8, 1986, unless taken out of operatio on or before January 1, 1974, were require to notify the designated state or loc agency in accordance with the Hazardo and Solid Waste Amendments of 1984, Pu L. 98-616, on a form published by EPA o November 8, 1985 (50 FR 46602) unle notice was given pursuant to section 103 of CERCLA. Owners and operators wh have not complied with the notification r quirements may use portions I through of the notification form contained in Appe dix I of this part.

(b) In states where state law, regul tions, or procedures require owners use forms that differ from those s forth in Appendix I of this part to fu fill the requirements of this sectio the state forms may be submitted lieu of the forms set forth in Append I of this part. If a state requires th its form be used in lieu of the for presented in this regulation, su form must meet the requirements section 9002.

(c) Owners required to submit n tices under paragraph (a) of this se tion must provide notices to the appr priate agencies or departments iden fied in Appendix II of this part f each tank they own. Owners may pr vide notice for several tanks using o notification form, but owners who o tanks located at more than one pla of operation must file a separate no fication form for each separate pla of operation.

(d) Notices required to be submitt under paragraph (a) of this secti must provide all of the information sections I through VI of the p scribed form (or appropriate st form) for each tank for which noti must be given. Notices for tanks installed after December 22, 1988 must also provide all of the information in section VII of the prescribed form (or appropriate state form) for each tank for which notice must be given.

(e) All owners and operators of new UST systems must certify in the notification form compliance with the following requirements:

(1) Installation of tanks and piping under § 280.20(e);

(2) Cathodic protection of steel tanks and piping under § 280 20 (a) and (b);

(3) Financial responsibility under Subpart H of this part; and

(4) Release detection under §§ 280.41 and 280.42.

(f) All owners and operators of new UST systems must ensure that the installer certifies in the notification form that the methods used to install the tanks and piping complies with the requirements in § 280.20(d).

(g) Beginning October 24, 1988, any person who sells a tank intended to be used as an underground storage tank must notify the purchaser of such tank of the owner's notification obligations under paragraph (a) of this section. The form provided in Appendix III of this part may be used to comply with this requirement.

Subpart C—General Operating Requirements

§ 280.30 Spill and overfill control.

(a) Owners and operators must ensure that releases due to spilling or overfilling do not occur. The owner and operator must ensure that the volume available in the tank is greater than the volume of product to be transferred to the tank before the transfer is made and that the transfer operation is monitored constantly to prevent overfilling and spilling.

NOTE: The transfer procedures described in National Fire Protection Association Publication 385 may be used to comply with paragraph (a) of this section. Further guidance on spill and overfill prevention appears in American Petroleum Institute Publication 1621, "Recommended Practice for Bulk Liquid Stock Control at Retail Outlets," and National Fire Protection Association Standard 30, "Flammable and Combustible Liquids Code."

(b) The owner and operator must report, investigate, and clean up any spills and overfills in accordance with § 280.53.

§ 280.31 Operation and maintenance of corrosion protection.

All owners and operators of steel UST systems with corrosion protection must comply with the following requirements to ensure that releases due to corrosion are prevented for as long as the UST system is used to store regulated substances:

(a) All corrosion protection systems must be operated and maintained to continuously provide corrosion protection to the metal components of that portion of the tank and piping that routinely contain regulated substances and are in contact with the ground.

(b) All UST systems equipped with cathodic protection systems must be inspected for proper operation by a qualified cathodic protection tester in accordance with the following requirements:

(1) *Frequency.* All cathodic protection systems must be tested within 6 months of installation and at least every 3 years thereafter or according to another reasonable time frame established by the implementing agency; and

(2) *Inspection criteria.* The criteria that are used to determine that cathodic protection is adequate as required by this section must be in accordance with a code of practice developed by a nationally recognized association.

NOTE: National Association of Corrosion Engineers Standard RP-02-85, "Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems," may be used to comply with paragraph (b)(2) of this section.

(c) UST systems with impressed current cathodic protection systems must also be inspected every 60 days to ensure the equipment is running properly.

(d) For UST systems using cathodic protection, records of the operation of the cathodic protection must be maintained (in accordance with § 280.34) to demonstrate compliance with the performance standards in this section. These records must provide the following:

(1) The results of the last three inspections required in paragraph (c) of this section; and

(2) The results of testing from the last two inspections required in paragraph (b) of this section.

§ 280.32 Compatibility.

Owners and operators must use an UST system made of or lined with materials that are compatible with the substance stored in the UST system.

NOTE: Owners and operators storing alcohol blends may use the following codes to comply with the requirements of this section:

(a) American Petroleum Institute Publication 1626, "Storing and Handling Ethanol and Gasoline-Ethanol Blends at Distribution Terminals and Service Stations"; and

(b) American Petroleum Institute Publication 1627, "Storage and Handling of Gasoline-Methanol/Cosolvent Blends at Distribution Terminals and Service Stations."

§ 280.33 Repairs allowed.

Owners and operators of UST systems must ensure that repairs will prevent releases due to structural failure or corrosion as long as the UST system is used to store regulated substances. The repairs must meet the following requirements:

(a) Repairs to UST systems must be properly conducted in accordance with a code of practice developed by a nationally recognized association or an independent testing laboratory.

NOTE: The following codes and standards may be used to comply with paragraph (a) of this section: National Fire Protection Association Standard 30, "Flammable and Combustible Liquids Code"; American Petroleum Institute Publication 2200, "Repairing Crude Oil, Liquified Petroleum Gas, and Product Pipelines"; American Petroleum Institute Publication 1631, "Recommended Practice for the Interior Lining of Existing Steel Underground Storage Tanks"; and National Leak Prevention Association Standard 631, "Spill Prevention, Minimum 10 Year Life Extension of Existing Steel Underground Tanks by Lining Without the Addition of Cathodic Protection."

(b) Repairs to fiberglass-reinforced plastic tanks may be made by the manufacturer's authorized representatives or in accordance with a code of practice developed by a nationally recognized association or an independent testing laboratory.

(c) Metal pipe sections and fittings that have released product as a result of corrosion or other damage must be replaced. Fiberglass pipes and fittings may be repaired in accordance with the manufacturer's specifications.

(d) Repaired tanks and piping must be tightness tested in accordance with § 280.43(c) and § 280.44(b) within 30 days following the date of the completion of the repair except as provided in paragraphs (d) (1) through (3), of this section:

(1) The repaired tank is internally inspected in accordance with a code of practice developed by a nationally recognized association or an independent testing laboratory; or

(2) The repaired portion of the UST system is monitored monthly for releases in accordance with a method specified in § 280.43 (d) through (h); or

(3) Another test method is used that is determined by the implementing agency to be no less protective of human health and the environment than those listed above.

(e) Within 6 months following the repair of any cathodically protected UST system, the cathodic protection system must be tested in accordance with § 280.31 (b) and (c) to ensure that it is operating properly.

(f) UST system owners and operators must maintain records of each repair for the remaining operating life of the UST system that demonstrate compliance with the requirements of this section.

§ 280.34 Reporting and recordkeeping.

Owners and operators of UST systems must cooperate fully with inspections, monitoring and testing conducted by the implementing agency, as well as requests for document submission, testing, and monitoring by the owner or operator pursuant to section 9005 of Subtitle I of the Resource Conservation and Recovery Act, as amended.

(a) *Reporting.* Owners and operators must submit the following information to the implementing agency:

(1) Notification for all UST systems (§ 280.22), which includes certification of installation for new UST systems (§ 280.20(e)),

(2) Reports of all releases including suspected releases (§ 280.50), spills and overfills (§ 280.53), and confirmed releases (§ 280.61);

(3) Corrective actions planned or taken including initial abatement measures (§ 280.62), initial site characterization (§ 280.63), free product removal (§ 280.64), investigation of soil and ground-water cleanup (§ 280.65), and corrective action plan (§ 280.66); and

(4) A notification before permanent closure or change-in-service (§ 280.71).

(b) *Recordkeeping.* Owners and operators must maintain the following information:

(1) A corrosion expert's analysis of site corrosion potential if corrosion protection equipment is not used (§ 280.20(a)(4); § 280.20(b)(3)).

(2) Documentation of operation of corrosion protection equipment (§ 280.31);

(3) Documentation of UST system repairs (§ 280.33(f));

(4) Recent compliance with release detection requirements (§ 280.45); and

(5) Results of the site investigation conducted at permanent closure (§ 280.74).

(c) *Availability and Maintenance of Records.* Owners and operators must keep the records required either:

(1) At the UST site and immediately available for inspection by the implementing agency; or

(2) At a readily available alternative site and be provided for inspection to the implementing agency upon request.

(3) In the case of permanent closure records required under § 280.74, owners and operators are also provided with the additional alternative of mailing closure records to the implementing agency if they cannot be kept at the site or an alternative site as indicated above.

NOTE: The recordkeeping and reporting requirements in this section have been approved by the Office of Management and Budget and have been assigned OMB Control No. 2050-0068.

Subpart D—Release Detection

§ 280.40 General requirements for all UST systems.

(a) Owners and operators of new and existing UST systems must provide a method, or combination of methods, of release detection that:

(1) Can detect a release from any portion of the tank and the connected underground piping that routinely contains product;

(2) Is installed, calibrated, operated, and maintained in accordance with the manufacturer's instructions, including routine maintenance and service checks for operability or running condition; and

(3) Meets the performance requirements in § 280.43 or 280.44, with any performance claims and their manner of determination described in writing by the equipment manufacturer or installer. In addition, methods used after December 22, 1990 except for methods permanently installed prior to that date, must be capable of detecting the leak rate or quantity specified for that method in § 280.43 (b), (c), and (d) or 280.44 (a) and (b) with a probability of detection of 0.95 and a probability of false alarm of 0.05.

(b) When a release detection method operated in accordance with the performance standards in § 280.43 and § 280.44 indicates a release may have occurred, owners and operators must notify the implementing agency in accordance with Subpart E.

(c) Owners and operators of all UST systems must comply with the release detection requirements of this subpart by December 22 of the year listed in the following table:

SCHEDULE FOR PHASE-IN OF RELEASE DETECTION

Year system was installed	Year when release detection is required (by December 22 of the year indicated)				
	1989	1990	1991	1992	1993
Before 1965 or date unknown	RD	P			
1965-69		P/RD			
1970-74		P	RD		
1975-79		P		RD	
1980-88		P			RD

SCHEDULE FOR PHASE-IN OF RELEASE DETECTION—Continued

Year system was installed	Year when release detection is required (by December 22 of the year indicated)				
	1989	1990	1991	1992	1993
New tanks (after December 22) immediately upon installation					

P = Must begin release detection for all pressurized piping as defined in § 280.41(b)(1)

RD = Must begin release detection for tanks and suction piping in accordance with § 280.41(a), § 280.41(b)(2), and § 280.42.

(d) Any existing UST system that cannot apply a method of release detection that complies with the requirements of this subpart must complete the closure procedures in Subpart G by the date on which release detection is required for that UST system under paragraph (c) of this section.

[53 FR 37194, Sept. 23, 1988, as amended at 55 FR 17753, Apr. 27, 1990; 55 FR 23738, June 12, 1990]

§ 280.41 Requirements for petroleum UST systems.

Owners and operators of petroleum UST systems must provide release detection for tanks and piping as follows:

(a) *Tanks.* Tanks must be monitored at least every 30 days for releases using one of the methods listed in § 280.43 (d) through (h) except that:

(1) UST systems that meet the performance standards in § 280.20 or § 280.21, and the monthly inventory control requirements in § 280.43 (a) or (b), may use tank tightness testing (conducted in accordance with § 280.43(c)) at least every 5 years until December 22, 1998, or until 10 years after the tank is installed or upgraded under § 280.21(b), whichever is later;

(2) UST systems that do not meet the performance standards in § 280.20 or § 280.21 may use monthly inventory controls (conducted in accordance with § 280.43(a) or (b)) and annual tank tightness testing (conducted in accordance with § 280.43(c)) until December 22, 1998 when the tank must be upgraded under § 280.21 or permanently closed under § 280.71; and

(3) Tanks with capacity of 550 gallons or less may use weekly tank gauging (conducted in accordance with § 280.43(b)).

(b) *Piping.* Underground piping that routinely contains regulated substances must be monitored for releases in a manner that meets one of the following requirements:

(1) *Pressurized piping.* Underground piping that conveys regulated substances under pressure must:

(i) Be equipped with an automatic line leak detector conducted in accordance with § 280.44(a); and

(ii) Have an annual line tightness test conducted in accordance with § 280.44(b) or have monthly monitoring conducted in accordance with § 280.44(c).

(2) *Suction piping.* Underground piping that conveys regulated substances under suction must either have a line tightness test conducted at least every 3 years and in accordance with § 280.44(b), or use a monthly monitoring method conduct in accordance with § 280.44(c). No release detection is required for suction piping that is designed and constructed to meet the following standards:

(i) The below-grade piping operates at less than atmospheric pressure;

(ii) The below-grade piping is sloped so that the contents of the pipe will drain back into the storage tank if the suction is released;

(iii) Only one check valve is included in each suction line;

(iv) The check valve is located directly below and as close as practical to the suction pump; and

(v) A method is provided that allows compliance with paragraphs (b)(2) (ii)-(iv) of this section to be readily determined.

§ 280.42 Requirements for hazardous substance UST systems.

Owners and operators of hazardous substance UST systems must provide release detection that meets the following requirements:

(a) Release detection at existing UST systems must meet the requirements for petroleum UST systems in § 280.41. By December 22, 1998, all existing hazardous substance UST systems must meet the release detection requirements for new systems in paragraph (b) of this section.

(b) Release detection at new hazard-
us substance UST systems must meet
he following requirements:

(1) Secondary containment systems
ust be designed, constructed and in-
talled to:

(i) Contain regulated substances re-
ased from the tank system until they
re detected and removed;

(ii) Prevent the release of regulated
ubstances to the environment at any
ime during the operational life of the
ST system; and

(iii) Be checked for evidence of a re-
ase at least every 30 days.

NOTE.—The provisions of 40 CFR 265.193,
ontainment and Detection of Releases,
ay be used to comply with these require-
ents.

(2) Double-walled tanks must be de-
igned, constructed, and installed to:

(i) Contain a release from any por-
ion of the inner tank within the outer
all; and

(ii) Detect the failure of the inner
all.

(3) External liners (including vaults)
ust be designed, constructed, and in-
talled to:

(i) Contain 100 percent of the capac-
ty of the largest tank within its
oundary;

(ii) Prevent the interference of pre-
ipitation or ground-water intrusion
ith the ability to contain or detect a
elease of regulated substances; and

(iii) Surround the tank completely
i.e., it is capable of preventing lateral
s well as vertical migration of regulat-
d substances).

(4) Underground piping must be
quipped with secondary containment
hat satisfies the requirements of
aragraph (b)(1) of this section (e.g.,
rench liners, jacketing of double-
alled pipe). In addition, underground
iping that conveys regulated sub-
tances under pressure must be
quipped with an automatic line leak
etector in accordance with
§ 280.44(a).

(5) Other methods of release detec-
tion may be used if owners and opera-
tors:

(i) Demonstrate to the implementing
agency that an alternate method can
detect a release of the stored sub-
stance as effectively as any of the
methods allowed in §§ 280.43(b) through (h) can detect a release of petroleum;

(ii) Provide information to the implementing agency on effective corrective action technologies, health risks, and chemical and physical properties of the stored substance, and the characteristics of the UST site; and,

(iii) Obtain approval from the implementing agency to use the alternate release detection method before the installation and operation of the new UST system.

§ 280.43 Methods of release detection for tanks.

Each method of release detection for tanks used to meet the requirements of § 280.41 must be conducted in accordance with the following:

(a) *Inventory control.* Product inventory control (or another test of equivalent performance) must be conducted monthly to detect a release of at least 1.0 percent of flow-through plus 130 gallons on a monthly basis in the following manner:

(1) Inventory volume measurements for regulated substance inputs, withdrawals, and the amount still remaining in the tank are recorded each operating day;

(2) The equipment used is capable of measuring the level of product over the full range of the tank's height to the nearest one-eighth of an inch;

(3) The regulated substance inputs are reconciled with delivery receipts by measurement of the tank inventory volume before and after delivery;

(4) Deliveries are made through a drop tube that extends to within one foot of the tank bottom;

(5) Product dispensing is metered and recorded within the local standards for meter calibration or an accuracy of 6 cubic inches for every 5 gallons of product withdrawn; and

(6) The measurement of any water level in the bottom of the tank is made to the nearest one-eighth of an inch at least once a month.

NOTE: Practices described in the American Petroleum Institute Publication 1621, "Recommended Practice for Bulk Liquid Stock Control at Retail Outlets," may be used, where applicable, as guidance in meeting the requirements of this paragraph.

(b) *Manual tank gauging.* Manual tank gauging must meet the following requirements:

(1) Tank liquid level measurements are taken at the beginning and ending of a period of at least 36 hours during which no liquid is added to or removed from the tank;

(2) Level measurements are based on an average of two consecutive stick readings at both the beginning and ending of the period;

(3) The equipment used is capable of measuring the level of product over the full range of the tank's height to the nearest one-eighth of an inch;

(4) A leak is suspected and subject to the requirements of Subpart E if the variation between beginning and ending measurements exceeds the weekly or monthly standards in the following table:

Nominal tank capacity	Weekly standard (one test)	Monthly standard (average of four tests)
550 gallons or less	10 gallons	5 gallons
551-1,000 gallons	13 gallons	7 gallons
1,001-2,000 gallons	26 gallons	13 gallons

(5) Only tanks of 550 gallons or less nominal capacity may use this as the sole method of release detection. Tanks of 551 to 2,000 gallons may use the method in place of manual inventory control in § 280.43(a). Tanks of greater than 2,000 gallons nominal capacity may not use this method to meet the requirements of this subpart.

(c) *Tank tightness testing.* Tank tightness testing (or another test of equivalent performance) must be capable of detecting a 0.1 gallon per hour leak rate from any portion of the tank that routinely contains product while accounting for the effects of thermal expansion or contraction of the product, vapor pockets, tank deformation, evaporation or condensation, and the location of the water table.

(d) *Automatic tank gauging.* Equipment for automatic tank gauging that tests for the loss of product and conducts inventory control must meet the following requirements:

(1) The automatic product level monitor test can detect a 0.2 gallon per hour leak rate from any portion of the tank that routinely contains product; and

(2) Inventory control (or another test of equivalent performance) is conducted in accordance with the requirements of § 280.43(a).

(e) *Vapor monitoring.* Testing or monitoring for vapors within the soil gas of the excavation zone must meet the following requirements:

(1) The materials used as backfill are sufficiently porous (e.g., gravel, sand, crushed rock) to readily allow diffusion of vapors from releases into the excavation area;

(2) The stored regulated substance, or a tracer compound placed in the tank system, is sufficiently volatile (e.g., gasoline) to result in a vapor level that is detectable by the monitoring devices located in the excavation zone in the event of a release from the tank;

(3) The measurement of vapors by the monitoring device is not rendered inoperative by the ground water, rainfall, or soil moisture or other known interferences so that a release could go undetected for more than 30 days;

(4) The level of background contamination in the excavation zone will not interfere with the method used to detect releases from the tank;

(5) The vapor monitors are designed and operated to detect any significant increase in concentration above background of the regulated substance stored in the tank system, a component or components of that substance, or a tracer compound placed in the tank system;

(6) In the UST excavation zone, the site is assessed to ensure compliance with the requirements in paragraphs (e) (1) through (4) of this section and to establish the number and positioning of monitoring wells that will detect releases within the excavation zone from any portion of the tank that routinely contains product; and

(7) Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering.

(f) *Ground-water monitoring.* Testing or monitoring for liquids on the ground water must meet the following requirements:

(1) The regulated substance stored is immiscible in water and has a specific gravity of less than one;

(2) Ground water is never more than 20 feet from the ground surface and the hydraulic conductivity of the soil(s) between the UST system and the monitoring wells or devices is not less than 0.01 cm/sec (e.g., the soil should consist of gravels, coarse to medium sands, coarse silts or other permeable materials);

(3) The slotted portion of the monitoring well casing must be designed to prevent migration of natural soils or filter pack into the well and to allow entry of regulated substance on the water table into the well under both high and low ground-water conditions;

(4) Monitoring wells shall be sealed from the ground surface to the top of the filter pack;

(5) Monitoring wells or devices intercept the excavation zone or are as close to it as is technically feasible;

(6) The continuous monitoring devices or manual methods used can detect the presence of at least one-eighth of an inch of free product on top of the ground water in the monitoring wells;

(7) Within and immediately below the UST system excavation zone, the site is assessed to ensure compliance with the requirements in paragraphs (f) (1) through (5) of this section and to establish the number and positioning of monitoring wells or devices that will detect releases from any portion of the tank that routinely contains product; and

(8) Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering.

(g) *Interstitial monitoring.* Interstitial monitoring between the UST system and a secondary barrier immediately around or beneath it may be used, but only if the system is designed, constructed and installed to detect a leak from any portion of the tank that routinely contains product and also meets one of the following requirements:

(1) For double-walled UST systems, the sampling or testing method can detect a release through the inner wall in any portion of the tank that routinely contains product;

NOTE: The provisions outlined in the Steel Tank Institute's "Standard for Dual Wall Underground Storage Tanks" may be used as guidance for aspects of the design and construction of underground steel double-walled tanks.

(2) For UST systems with a secondary barrier within the excavation zone, the sampling or testing method used can detect a release between the UST system and the secondary barrier;

(i) The secondary barrier around or beneath the UST system consists of artificially constructed material that is sufficiently thick and impermeable (at least 10^{-6} cm/sec for the regulated substance stored) to direct a release to the monitoring point and permit its detection;

(ii) The barrier is compatible with the regulated substance stored so that a release from the UST system will not cause a deterioration of the barrier allowing a release to pass through undetected;

(iii) For cathodically protected tanks, the secondary barrier must be installed so that it does not interfere with the proper operation of the cathodic protection system;

(iv) The ground water, soil moisture, or rainfall will not render the testing or sampling method used inoperative so that a release could go undetected for more than 30 days;

(v) The site is assessed to ensure that the secondary barrier is always above the ground water and not in a 25-year flood plain, unless the barrier and monitoring designs are for use under such conditions; and,

(vi) Monitoring wells are clearly marked and secured to avoid unauthorized access and tampering.

(3) For tanks with an internally fitted liner, an automated device can detect a release between the inner wall of the tank and the liner, and the liner is compatible with the substance stored.

(h) *Other methods.* Any other type of release detection method, or combination of methods, can be used if:

(1) It can detect a 0.2 gallon per hour leak rate or a release of 150 gallons within a month with a probability of detection of 0.95 and a probability of false alarm of 0.05; or

(2) The implementing agency may approve another method if the owner and operator can demonstrate that the method can detect a release as effectively as any of the methods allowed in paragraphs (c) through (h) of this section. In comparing methods, the implementing agency shall consider the size of release that the method can detect and the frequency and reliability with which it can be detected. If the method is approved, the owner and operator must comply with any conditions imposed by the implementing agency on its use to ensure the protection of human health and the environment.

§ 280.44 Methods of release detection for piping.

Each method of release detection for piping used to meet the requirements of § 280.41 must be conducted in accordance with the following:

(a) *Automatic line leak detectors.* Methods which alert the operator to the presence of a leak by restricting or shutting off the flow of regulated substances through piping or triggering an audible or visual alarm may be used only if they detect leaks of 3 gallons per hour at 10 pounds per square inch line pressure within 1 hour. An annual test of the operation of the leak detector must be conducted in accordance with the manufacturer's requirements.

(b) *Line tightness testing.* A periodic test of piping may be conducted only if it can detect a 0.1 gallon per hour leak rate at one and one-half times the operating pressure.

(c) *Applicable tank methods.* Any of the methods in § 280.43 (e) through (h) may be used if they are designed to detect a release from any portion of the underground piping that routinely contains regulated substances.

§ 280.45 Release detection recordkeeping.

All UST system owners and operators must maintain records in accordance with § 280.34 demonstrating compliance with all applicable requirements of this Subpart. These records must include the following:

(a) All written performance claims pertaining to any release detection system used, and the manner in which these claims have been justified or tested by the equipment manufacturer or installer, must be maintained for 5 years, or for another reasonable period of time determined by the implementing agency, from the date of installation;

(b) The results of any sampling, testing, or monitoring must be maintained for at least 1 year, or for another reasonable period of time determined by the implementing agency, except that the results of tank tightness testing conducted in accordance with § 280.43(c) must be retained until the next test is conducted; and

(c) Written documentation of all calibration, maintenance, and repair of release detection equipment permanently located on-site must be maintained for at least one year after the servicing work is completed, or for another reasonable time period determined by the implementing agency. Any schedules of required calibration and maintenance provided by the release detection equipment manufacturer must be retained for 5 years from the date of installation.

Subpart E—Release Reporting, Investigation, and Confirmation

§ 280.50 Reporting of suspected releases.

Owners and operators of UST systems must report to the implementing agency within 24 hours, or another reasonable time period specified by the implementing agency, and follow the procedures in § 280.52 for any of the following conditions:

(a) The discovery by owners and operators or others of released regulated substances at the UST site or in the surrounding area (such as the presence of free product or vapors in soils, basements, sewer and utility lines, and nearby surface water).

(b) Unusual operating conditions observed by owners and operators (such as the erratic behavior of product dispensing equipment, the sudden loss of product from the UST system, or an unexplained presence of water in the tank), unless system equipment is found to be defective but not leaking, and is immediately repaired or replaced; and,

(c) Monitoring results from a release detection method required under § 280.41 and § 280.42 that indicate a release may have occurred unless:

(1) The monitoring device is found to be defective, and is immediately repaired, recalibrated or replaced, and additional monitoring does not confirm the initial result; or

(2) In the case of inventory control, a second month of data does not confirm the initial result.

§ 280.51 Investigation due to off-site impacts.

When required by the implementing agency, owners and operators of UST systems must follow the procedures in § 280.52 to determine if the UST system is the source of off-site impacts. These impacts include the discovery of regulated substances (such as the presence of free product or vapors in soils, basements, sewer and utility lines, and nearby surface and drinking waters) that has been observed by the implementing agency or brought to its attention by another party.

§ 280.52 Release investigation and confirmation steps.

Unless corrective action is initiated in accordance with Subpart F, owners and operators must immediately investigate and confirm all suspected releases of regulated substances requiring reporting under § 280.50 within 7 days, or another reasonable time period specified by the implementing agency, using either the following steps or another procedure approved by the implementing agency:

(a) *System test.* Owners and operators must conduct tests (according to the requirements for tightness testing in § 280.43(c) and § 280.44(b)) that determine whether a leak exists in that portion of the tank that routinely contains product, or the attached delivery piping, or both.

(1) Owners and operators must repair, replace or upgrade the UST system, and begin corrective action in accordance with Subpart F if the test results for the system, tank, or delivery piping indicate that a leak exists.

(2) Further investigation is not required if the test results for the system, tank, and delivery piping do not indicate that a leak exists and if environmental contamination is not the basis for suspecting a release.

(3) Owners and operators must conduct a site check as described in paragraph (b) of this section if the test results for the system, tank, and delivery piping do not indicate that a leak exists but environmental contamination is the basis for suspecting a release.

(b) *Site check.* Owners and operators must measure for the presence of a release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations, and measurement methods, owners and operators must consider the nature of the stored substance, the type of initial alarm or cause for suspicion, the type of backfill, the depth of ground water, and other factors appropriate for identifying the presence and source of the release.

(1) If the test results for the excavation zone or the UST site indicate that a release has occurred, owners and operators must begin corrective action in accordance with Subpart F;

(2) If the test results for the excavation zone or the UST site do not indicate that a release has occurred, further investigation is not required.

§ 280.53 Reporting and cleanup of spills and overfills.

(a) Owners and operators of UST systems must contain and immediately clean up a spill or overfill and report to the implementing agency within 24 hours, or another reasonable time period specified by the implementing agency, and begin corrective action in accordance with Subpart F in the following cases:

(1) Spill or overfill of petroleum that results in a release to the environment that exceeds 25 gallons or another reasonable amount specified by the implementing agency, or that causes a sheen on nearby surface water; and

(2) Spill or overfill of a hazardous substance that results in a release to the environment that equals or exceeds its reportable quantity under CERCLA (40 CFR Part 302).

(b) Owners and operators of UST systems must contain and immediately clean up a spill or overfill of petroleum that is less than 25 gallons or another reasonable amount specified by the implementing agency, and a spill or overfill of a hazardous substance that is less than the reportable quantity. If cleanup cannot be accomplished within 24 hours, or another reasonable time period established by the implementing agency, owners and operators must immediately notify the implementing agency.

NOTE: Pursuant to §§ 302.6 and 355.40, a release of a hazardous substance equal to or in excess of its reportable quantity must also be reported immediately (rather than within 24 hours) to the National Response Center under sections 102 and 103 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 and to appropriate state and local authorities under Title III of the Superfund Amendments and Reauthorization Act of 1986.

Subpart F—Release Response and Corrective Action for UST Systems Containing Petroleum or Hazardous Substances

§ 280.60 General.

Owners and operators of petroleum or hazardous substance UST systems must, in response to a confirmed release from the UST system, comply with the requirements of this subpart except for USTs excluded under § 280.10(b) and UST systems subject to RCRA Subtitle C corrective action requirements under section 3004(u) of the Resource Conservation and Recovery Act, as amended.

§ 280.61 Initial response.

Upon confirmation of a release in accordance with § 280.52 or after a release from the UST system is identified in any other manner, owners and operators must perform the following initial response actions within 24 hours of a release or within another reasonable period of time determined by the implementing agency:

(a) Report the release to the implementing agency (e.g., by telephone or electronic mail);

(b) Take immediate action to prevent any further release of the regulated substance into the environment; and

(c) Identify and mitigate fire, explosion, and vapor hazards.

§ 280.62 Initial abatement measures and site check.

(a) Unless directed to do otherwise by the implementing agency, owners and operators must perform the following abatement measures:

(1) Remove as much of the regulated substance from the UST system as is necessary to prevent further release to the environment;

(2) Visually inspect any aboveground releases or exposed belowground releases and prevent further migration of the released substance into surrounding soils and ground water;

(3) Continue to monitor and mitigate any additional fire and safety hazards posed by vapors or free product that have migrated from the UST excavation zone and entered into subsurface structures (such as sewers or basements);

(4) Remedy hazards posed by contaminated soils that are excavated or exposed as a result of release confirmation, site investigation, abatement, or corrective action activities. If these remedies include treatment or disposal of soils, the owner and operator must comply with applicable State and local requirements;

(5) Measure for the presence of a release where contamination is most likely to be present at the UST site, unless the presence and source of the release have been confirmed in accordance with the site check required by § 280.52(b) or the closure site assessment of § 280.72(a). In selecting sample types, sample locations, and measurement methods, the owner and operator must consider the nature of the stored substance, the type of backfill, depth to ground water and other factors as appropriate for identifying the presence and source of the release; and

(6) Investigate to determine the possible presence of free product, and begin free product removal as soon as practicable and in accordance with § 280.64.

(b) Within 20 days after release confirmation, or within another reasonable period of time determined by the implementing agency, owners and operators must submit a report to the implementing agency summarizing the initial abatement steps taken under paragraph (a) of this section and any resulting information or data.

§ 280.63 Initial site characterization.

(a) Unless directed to do otherwise by the implementing agency, owners and operators must assemble information about the site and the nature of the release, including information gained while confirming the release or completing the initial abatement measures in § 280.60 and § 280.61. This information must include, but is not necessarily limited to the following:

(1) Data on the nature and estimated quantity of release;

(2) Data from available sources and/or site investigations concerning the following factors: surrounding populations, water quality, use and approximate locations of wells potentially affected by the release, subsurface soil conditions, locations of subsurface sewers, climatological conditions, and land use;

(3) Results of the site check required under § 280.62(a)(5); and

(4) Results of the free product investigations required under § 280.62(a)(6), to be used by owners and operators to determine whether free product must be recovered under § 280.64.

(b) Within 45 days of release confirmation or another reasonable period of time determined by the implementing agency, owners and operators must submit the information collected in compliance with paragraph (a) of this section to the implementing agency in a manner that demonstrates its applicability and technical adequacy, or in a format and according to the schedule required by the implementing agency.

§ 280.64 Free product removal.

At sites where investigations under § 280.62(a)(6) indicate the presence of free product, owners and operators must remove free product to the maximum extent practicable as determined by the implementing agency while continuing, as necessary, any actions initiated under §§ 280.61 through 280.63, or preparing for actions required under §§ 280.65 through 280.66. In meeting the requirements of this section, owners and operators must:

(a) Conduct free product removal in a manner that minimizes the spread of contamination into previously uncontaminated zones by using recovery and disposal techniques appropriate to the hydrogeologic conditions at the site, and that properly treats, discharges or disposes of recovery byproducts in compliance with applicable local, State and Federal regulations;

(b) Use abatement of free product migration as a minimum objective for the design of the free product removal system;

(c) Handle any flammable products in a safe and competent manner to prevent fires or explosions; and

(d) Unless directed to do otherwise by the implementing agency, prepare and submit to the implementing agency, within 45 days after confirming a release, a free product removal report that provides at least the following information:

(1) The name of the person(s) responsible for implementing the free product removal measures;

(2) The estimated quantity, type, and thickness of free product observed or measured in wells, boreholes, and excavations;

(3) The type of free product recovery system used;

(4) Whether any discharge will take place on-site or off-site during the recovery operation and where this discharge will be located;

(5) The type of treatment applied to, and the effluent quality expected from, any discharge;

(6) The steps that have been or are being taken to obtain necessary permits for any discharge; and

(7) The disposition of the recovered free product.

§ 280.65 Investigations for soil and ground-water cleanup.

(a) In order to determine the full extent and location of soils contaminated by the release and the presence and concentrations of dissolved product contamination in the ground water, owners and operators must conduct investigations of the release, the release site, and the surrounding area possibly affected by the release if any of the following conditions exist:

(1) There is evidence that ground-water wells have been affected by the release (e.g., as found during release confirmation or previous corrective action measures);

(2) Free product is found to need recovery in compliance with § 280.64;

(3) There is evidence that contaminated soils may be in contact with ground water (e.g., as found during conduct of the initial response measures or investigations required under §§ 280.60 through 280.64); and

(4) The implementing agency requests an investigation, based on the potential effects of contaminated soil or ground water on nearby surface water and ground-water resources.

(b) Owners and operators must submit the information collected under paragraph (a) of this section as soon as practicable or in accordance with a schedule established by the implementing agency.

§ 280.66 Corrective action plan.

(a) At any point after reviewing the information submitted in compliance with § 280.61 through § 280.63, the implementing agency may require owners and operators to submit additional information or to develop and submit a corrective action plan for responding to contaminated soils and ground water. If a plan is required, owners and operators must submit the plan according to a schedule and format established by the implementing agency. Alternatively, owners and operators may, after fulfilling the requirements of § 280.61 through § 280.63, choose to submit a corrective action plan for responding to contaminated soil and ground water. In either case, owners and operators are responsible for submitting a plan that provides for adequate protection of human health and the environment as determined by the implementing agency, and must modify their plan as necessary to meet this standard.

(b) The implementing agency will approve the corrective action plan only after ensuring that implement tion of the plan will adequately pr tect human health, safety, and the e vironment. In making this determin tion, the implementing agency shou consider the following factors as a propriate:

(1) The physical and chemical cha acteristics of the regulated substan including its toxicity, persistence, a potential for migration;

(2) The hydrogeologic character tics of the facility and the surroundi area;

(3) The proximity, quality, and cu rent and future uses of nearby surfa water and ground water;

(4) The potential effects of residu contamination on nearby surfa water and ground water;

(5) An exposure assessment; and

(6) Any information assembled compliance with this subpart.

(c) Upon approval of the correct action plan or as directed by the i plementing agency, owners and ope tors must implement the plan, incl ing modifications to the plan made the implementing agency. They mu monitor, evaluate, and report the sults of implementing the plan in cordance with a schedule and in format established by the impleme ing agency.

(d) Owners and operators may, the interest of minimizing envir mental contamination and promot more effective cleanup, begin clean of soil and ground water before corrective action plan is approved p vided that they:

(1) Notify the implementing age of their intention to begin cleanup;

(2) Comply with any conditions posed by the implementing agency, cluding halting cleanup or mitigat adverse consequences from cleanup tivities; and

(3) Incorporate these self-initia cleanup measures in the correct action plan that is submitted to implementing agency for approval.

§ 280.67 Public participation.

(a) For each confirmed release t requires a corrective action plan, implementing agency must prov notice to the public by means desig to reach those members of the public directly affected by the release and the planned corrective action. This notice may include, but is not limited to, public notice in local newspapers, block advertisements, public service announcements, publication in a state register, letters to individual households, or personal contacts by field staff.

(b) The implementing agency must ensure that site release information and decisions concerning the corrective action plan are made available to the public for inspection upon request.

(c) Before approving a corrective action plan, the implementing agency may hold a public meeting to consider comments on the proposed corrective action plan if there is sufficient public interest, or for any other reason.

(d) The implementing agency must give public notice that complies with paragraph (a) of this section if implementation of an approved corrective action plan does not achieve the established cleanup levels in the plan and termination of that plan is under consideration by the implementing agency.

Subpart G—Out-of-Service UST Systems and Closure

§ 280.70 Temporary closure.

(a) When an UST system is temporarily closed, owners and operators must continue operation and maintenance of corrosion protection in accordance with § 280.31, and any release detection in accordance with Subpart D. Subparts E and F must be complied with if a release is suspected or confirmed. However, release detection is not required as long as the UST system is empty. The UST system is empty when all materials have been removed using commonly employed practices so that no more than 2.5 centimeters (one inch) of residue, or 0.3 percent by weight of the total capacity of the UST system, remain in the system.

(b) When an UST system is temporarily closed for 3 months or more, owners and operators must also comply with the following requirements:

(1) Leave vent lines open and functioning; and

(2) Cap and secure all other lines, pumps, manways, and ancillary equipment.

(c) When an UST system is temporarily closed for more than 12 months, owners and operators must permanently close the UST system if it does not meet either performance standards in § 280.20 for new UST systems or the upgrading requirements in § 280.21, *except that* the spill and overfill equipment requirements do not have to be met. Owners and operators must permanently close the substandard UST systems at the end of this 12-month period in accordance with §§ 280.71-280.74, *unless* the implementing agency provides an extension of the 12-month temporary closure period. Owners and operators must complete a site assessment in accordance with § 280.72 before such an extension can be applied for.

§ 280.71 Permanent closure and changes-in-service.

(a) At least 30 days before beginning either permanent closure or a change-in-service under paragraphs (b) and (c) of this section, or within another reasonable time period determined by the implementing agency, owners and operators must notify the implementing agency of their intent to permanently close or make the change-in-service, *unless* such action is in response to corrective action. The required assessment of the excavation zone under § 280.72 must be performed after notifying the implementing agency but before completion of the permanent closure or a change-in-service.

(b) To permanently close a tank, owners and operators must empty and clean it by removing all liquids and accumulated sludges. All tanks taken out of service permanently must also be either removed from the ground or filled with an inert solid material.

(c) Continued use of an UST system to store a non-regulated substance is considered a change-in-service. Before a change-in-service, owners and operators must empty and clean the tank by removing all liquid and accumulated sludge and conduct a site assessment in accordance with § 280.72.

Note: The following cleaning and closure procedures may be used to comply with this section:

(A) American Petroleum Institute Recommended Practice 1604, "Removal and Disposal of Used Underground Petroleum Storage Tanks";

(B) American Petroleum Institute Publication 2015, "Cleaning Petroleum Storage Tanks";

(C) American Petroleum Institute Recommended Practice 1631, "Interior Lining of Underground Storage Tanks," may be used as guidance for compliance with this section; and

(D) The National Institute for Occupational Safety and Health "Criteria for a Recommended Standard * * * Working in Confined Space" may be used as guidance for conducting safe closure procedures at some hazardous substance tanks.

§ 280.72 Assessing the site at closure or change-in-service.

(a) Before permanent closure or a change-in-service is completed, owners and operators must measure for the presence of a release where contamination is most likely to be present at the UST site. In selecting sample types, sample locations, and measurement methods, owners and operators must consider the method of closure, the nature of the stored substance, the type of backfill, the depth to ground water, and other factors appropriate for identifying the presence of a release. The requirements of this section are satisfied if one of the external release detection methods allowed in § 280.43 (e) and (f) is operating in accordance with the requirements in § 280.43 at the time of closure, and indicates no release has occurred.

(b) If contaminated soils, contaminated ground water, or free product as a liquid or vapor is discovered under paragraph (a) of this section, or by any other manner, owners and operators must begin corrective action in accordance with Subpart F.

§ 280.73 Applicability to previously closed UST systems.

When directed by the implementing agency, the owner and operator of an UST system permanently closed before December 22, 1988 must assess the excavation zone and close the UST system in accordance with this Subpart if releases from the UST may, in the judgment of the implementing agency, pose a current or potential threat to human health and the environment.

§ 280.74 Closure records.

Owners and operators must maintain records in accordance with § 280.34 that are capable of demonstrating compliance with closure requirements under this Subpart. The results of the excavation zone assessment required in § 280.72 must be maintained for at least 3 years after completion of permanent closure or change-in-service in one of the following ways:

(a) By the owners and operators who took the UST system out of service;

(b) By the current owners and operators of the UST system site; or

(c) By mailing these records to the implementing agency if they cannot be maintained at the closed facility.

Subpart H—Financial Responsibility

Source: 53 FR 43370, Oct. 26, 1988, unless otherwise noted.

§ 280.90 Applicability.

(a) This subpart applies to owners and operators of all petroleum underground storage tank (UST) systems except as otherwise provided in this section.

(b) Owners and operators of petroleum UST systems are subject to these requirements if they are in operation on or after the date for compliance established in § 280.91.

(c) State and Federal government entities whose debts and liabilities are the debts and liabilities of a state or the United States are exempt from the requirements of this subpart.

(d) The requirements of this subpart do not apply to owners and operators of any UST system described in § 280.10 (b) or (c).

(e) If the owner and operator of a petroleum underground storage tank are separate persons, only one person is required to demonstrate financial responsibility; however, both parties are liable in event of noncompliance.

egardless of which party complies, ıe date set for compliance at a par- cular facility is determined by the aracteristics of the owner as set rth in § 280.91.

280.91 Compliance dates.

Owners of petroleum underground orage tanks are required to comply ith the requirements of this subpart the following dates:

(a) All petroleum marketing firms wning 1,000 or more USTs and all ther UST owners that report a tangi- le net worth of $20 million or more to e U.S. Securities and Exchange ommission (SEC), Dun and Brad- reet, the Energy Information Admin- tration, or the Rural Electrification dministration; January 24, 1989, xcept that compliance with 280.94(b) is required by: July 24, 989.

(b) All petroleum marketing firms wning 100-999 USTs; October 26, 989.

(c) All petroleum marketing firms wning 13-99 USTs at more than one cility; April 26, 1991.

(d) All petroleum UST owners not escribed in paragraphs (a), (b), or (c) f this section, including all local gov- rnment entities; October 26, 1990.

3 FR 43370, Oct. 26, 1988, as amended at FR 5452, Feb. 3, 1989; 55 FR 18567, May 1990]

280.92 Definition of terms.

When used in this subpart, the fol- wing terms shall have the meanings iven below:

(a) "Accidental release" means any udden or nonsudden release of petro- eum from an underground storage ank that results in a need for correc- ive action and/or compensation for odily injury or property damage nei- her expected nor intended by the ank owner or operator.

(b) "Bodily injury" shall have the eaning given to this term by applica- le state law; however, this term shall ot include those liabilities which, onsistent with standard insurance in- lustry practices, are excluded from overage in liability insurance policies or bodily injury.

(c) "Controlling interest" means direct ownership of at least 50 percent of the voting stock of another entity.

(d) "Director of the Implementing Agency" means the EPA Regional Administrator, or, in the case of a state with a program approved under section 9004, the Director of the designated state or local agency responsible for carrying out an approved UST program.

(e) "Financial reporting year" means the latest consecutive twelve-month period for which any of the following reports used to support a financial test is prepared:

(1) a 10-K report submitted to the SEC;

(2) an annual report of tangible net worth submitted to Dun and Bradstreet; or

(3) annual reports submitted to the Energy Information Administration or the Rural Electrification Administration.

"Financial reporting year" may thus comprise a fiscal or a calendar year period.

(f) "Legal defense cost" is any expense that an owner or operator or provider of financial assurance incurs in defending against claims or actions brought,

(1) By EPA or a state to require corrective action or to recover the costs of corrective action;

(2) By or on behalf of a third party for bodily injury or property damage caused by an accidental release; or

(3) By any person to enforce the terms of a financial assurance mechanism.

(g) "Occurrence" means an accident, including continuous or repeated exposure to conditions, which results in a release from an underground storage tank.

NOTE: This definition is intended to assist in the understanding of these regulations and is not intended either to limit the meaning of "occurrence" in a way that conflicts with standard insurance usage or to prevent the use of other standard insurance terms in place of "occurrence."

(h) "Owner or operator," when the owner or operator are separate parties, refers to the party that is obtaining or has obtained financial assurances.

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(i) "Petroleum marketing facilities" include all facilities at which petroleum is produced or refined and all facilities from which petroleum is sold or transferred to other petroleum marketers or to the public.

(j) "Petroleum marketing firms" are all firms owning petroleum marketing facilities. Firms owning other types of facilities with USTs as well as petroleum marketing facilities are considered to be petroleum marketing firms.

(k) "Property damage" shall have the meaning given this term by applicable state law. This term shall not include those liabilities which, consistent with standard insurance industry practices, are excluded from coverage in liability insurance policies for property damage. However, such exclusions for property damage shall not include corrective action associated with releases from tanks which are covered by the policy.

(l) "Provider of financial assurance" means an entity that provides financial assurance to an owner or operator of an underground storage tank through one of the mechanisms listed in §§ 280.95-280.103, including a guarantor, insurer, risk retention group, surety, issuer of a letter of credit, issuer of a state-required mechanism, or a state.

(m) "Substantial business relationship" means the extent of a business relationship necessary under applicable state law to make a guarantee contract issued incident to that relationship valid and enforceable. A guarantee contract is issued "incident to that relationship" if it arises from and depends on existing economic transactions between the guarantor and the owner or operator.

(n) "Tangible net worth" means the tangible assets that remain after deducting liabilities; such assets do not include intangibles such as goodwill and rights to patents or royalties. For purposes of this definition, "assets" means all existing and all probable future economic benefits obtained or controlled by a particular entity as a result of past transactions.

(o) "Termination" under § 280.97(b)(1) and § 280.97(b)(2) means only those changes that could result in a gap in coverage as where the insured has not obtained substitute coverage or has obtained substitute coverage with a different retroactive date than the retroactive date of the original policy.

[53 FR 43370, Oct. 26, 1988, as amended at 54 FR 47081, Nov. 9, 1989]

§ 280.93 Amount and scope of required financial responsibility.

(a) Owners or operators of petroleum underground storage tanks must demonstrate financial responsibility for taking corrective action and for compensating third parties for bodily injury and property damage caused by accidental releases arising from the operation of petroleum underground storage tanks in at least the following per-occurrence amounts:

(1) For owners or operators of petroleum underground storage tanks that are located at petroleum marketing facilities, or that handle an average of more than 10,000 gallons of petroleum per month based on annual throughput for the previous calendar year; $1 million.

(2) For all other owners or operators of petroleum underground storage tanks; $500,000.

(b) Owners or operators of petroleum underground storage tanks must demonstrate financial responsibility for taking corrective action and for compensating third parties for bodily injury and property damage caused by accidental releases arising from the operation of petroleum underground storage tanks in at least the following annual aggregate amounts:

(1) For owners or operators of 1 t 100 petroleum underground storag tanks, $1 million; and

(2) For owners or operators of 101 o more petroleum underground storag tanks, $2 million.

(c) For the purposes of paragraph (b) and (f) of this section, only, "a pe troleum underground storage tank means a single containment unit an does not mean combinations of singl containment units.

(d) Except as provided in paragrap (e) of this section, if the owner or op erator uses separate mechanisms separate combinations of mechanism to demonstrate financial responsibility for:

(1) Taking corrective action;

(2) Compensating third parties for bodily injury and property damage caused by sudden accidental releases; or

(3) Compensating third parties for bodily injury and property damage caused by nonsudden accidental releases, the amount of assurance provided by each mechanism or combination of mechanisms must be in the full amount specified in paragraphs (a) and (b) of this section.

(e) If an owner or operator uses separate mechanisms or separate combinations of mechanisms to demonstrate financial responsibility for different petroleum underground storage tanks, the annual aggregate required shall be based on the number of tanks covered by each such separate mechanism or combination of mechanisms.

(f) Owners or operators shall review the amount of aggregate assurance provided whenever additional petroleum underground storage tanks are acquired or installed. If the number of petroleum underground storage tanks for which assurance must be provided exceeds 100, the owner or operator shall demonstrate financial responsibility in the amount of at least $2 million of annual aggregate assurance by the anniversary of the date on which the mechanism demonstrating financial responsibility became effective. If assurance is being demonstrated by a combination of mechanisms, the owner or operator shall demonstrate financial responsibility in the amount of at least $2 million of annual aggregate assurance by the first-occurring effective date anniversary of any one of the mechanisms combined (other than a financial test or guarantee) to provide assurance.

(g) The amounts of assurance required under this section exclude legal defense costs.

(h) The required per-occurrence and annual aggregate coverage amounts do not in any way limit the liability of the owner or operator.

§ 280.94 Allowable mechanisms and combinations of mechanisms.

(a) Subject to the limitations of paragraphs (b) and (c) of this section, an owner or operator may use any one or combination of the mechanisms listed in §§ 280.95 through 280.103 to demonstrate financial responsibility under this subpart for one or more underground storage tanks.

(b) An owner or operator may use a guarantee or surety bond to establish financial responsibility only if the Attorney(s) General of the state(s) in which the underground storage tanks are located has (have) submitted a written statement to the implementing agency that a guarantee or surety bond executed as described in this section is a legally valid and enforceable obligation in that state.

(c) An owner or operator may use self-insurance in combination with a guarantee only if, for the purpose of meeting the requirements of the financial test under this rule, the financial statements of the owner or operator are not consolidated with the financial statements of the guarantor.

§ 280.95 Financial test of self-insurance.

(a) An owner or operator, and/or guarantor, may satisfy the requirements of § 280.93 by passing a financial test as specified in this section. To pass the financial test of self-insurance, the owner or operator, and/or guarantor must meet the criteria of paragraph (b) or (c) of this section based on year-end financial statements for the latest completed fiscal year.

(b)(1) The owner or operator, and/or guarantor, must have a tangible net worth of at least ten times:

(i) The total of the applicable aggregate amount required by § 280.93, based on the number of underground storage tanks for which a financial test is used to demonstrate financial responsibility to EPA under this section or to a state implementing agency under a state program approved by EPA under 40 CFR Part 281;

(ii) The sum of the corrective action cost estimates, the current closure and post-closure care cost estimates, and amount of liability coverage for which a financial test is used to demonstrate financial responsibility to EPA under 40 CFR 264.101, 264.143, 264.145, 265.143, 165.145, 264.147, and 265.147 or to a state implementing agency under a state program authorized by EPA under 40 CFR Part 271; and

(iii) The sum of current plugging and abandonment cost estimates for which a financial test is used to demonstrate financial responsibility to EPA under 40 CFR 144.63 or to a state implementing agency under a state program authorized by EPA under 40 CFR Part 145.

(2) The owner or operator, and/or guarantor, must have a tangible net worth of at least $10 million.

(3) The owner or operator, and/or guarantor, must have a letter signed by the chief financial officer worded as specified in paragraph (d) of this section.

(4) The owner or operator, and/or guarantor, must either:

(i) File financial statements annually with the U.S. Securities and Exchange Commission, the Energy Information Administration, or the Rural Electrification Administration; or

(ii) Report annually the firm's tangible net worth to Dun and Bradstreet, and Dun and Bradstreet must have assigned the firm a financial strength rating of 4A or 5A.

(5) The firm's year-end financial statements, if independently audited, cannot include an adverse auditor's opinion, a disclaimer of opinion, or a "going concern" qualification.

(c)(1) The owner or operator, and/or guarantor must meet the financial test requirements of 40 CFR 264.147(f)(1), substituting the appropriate amounts specified in § 280.93 (b)(1) and (b)(2) for the "amount of liability coverage" each time specified in that section.

(2) The fiscal year-end financial statements of the owner or operator, and/or guarantor, must be examined by an independent certified public accountant and be accompanied by the accountant's report of the examination.

(3) The firm's year-end financial statements cannot include an adverse auditor's opinion, a disclaimer of opinion, or a "going concern" qualification.

(4) The owner or operator, and/or guarantor, must have a letter signed by the chief financial officer, worded as specified in paragraph (d) of this section.

(5) If the financial statements of the owner or operator, and/or guarantor, are not submitted annually to the U.S. Securities and Exchange Commission, the Energy Information Administration or the Rural Electrification Administration, the owner or operator, and/or guarantor, must obtain a special report by an independent certified public accountant stating that:

(i) He has compared the data that the letter form the chief financial officer specifies as having been derived from the latest year-end financial statements of the owner or operator, and/or guarantor, with the amounts in such financial statements; and

(ii) In connection with that comparison, no matters came to his attention which caused him to believe that the specified data should be adjusted.

(d) To demonstrate that it meets the financial test under paragraph (b) or (c) of this section, the chief financial officer of the owner or operator, or guarantor, must sign, within 120 days of the close of each financial reporting year, as defined by the twelve-month period for which financial statements used to support the financial test are prepared, a letter worded exactly as follows, except that the instructions in brackets are to be replaced by the relevant information and the brackets deleted:

LETTER FROM CHIEF FINANCIAL OFFICER

I am the chief financial officer of [insert: name and address of the owner or operator, or guarantor]. This letter is in support of the use of [insert: "the financial test of self-insurance," and/or "guarantee"] to demonstrate financial responsibility for [insert: "taking corrective action" and/or "compensating third parties for bodily injury and property damage"] caused by [insert: "sudden accidential releases" and/or "nonsudden accidential releases"] in the amount of at least [insert: dollar amount] per occurrence and [insert: dollar amount] annual aggregate arising from operating (an) underground storage tank(s).

Underground storage tanks at the following facilities are assured by this financial test or a financial test under an authorized State program by this [insert: "owner or operator," and/or "guarantor"]: [List for each facility: the name and address of the facility where tanks assured by this financial test are located, and whether tanks are assured by this financial test or a financial test under a State program approved under 40 CFR Part 281. If separate mechanisms or combinations of mechanisms are being used to assure any of the tanks at this facility, list each tank assured by this financial test or a financial test under a State program authorized under 40 CFR Part 281 by the tank identification number provided in the notification submitted pursuant to 40 CFR 280.22 or the corresponding State requirements.]

A [insert: "financial test," and/or "guarantee"] is also used by this [insert: "owner or operator," or "guarantor"] to demonstrate evidence of financial responsibility in the following amounts under other EPA regulations or state programs authorized by EPA under 40 CFR Parts 271 and 145:

EPA Regulations	*Amount*
Closure (§§ 264.143 and 265.143)	$______
Post-Closure Care (§§ 264.145 and 265.145)	$______
Liability Coverage (§§ 264.147 and 265.147)	$______
Corrective Action (§§ 264.101(b))	$______
Plugging and Abandonment (§ 144.63)	$______
Closure	$______
Post-Closure Care	$______
Liabilitly Coverage	$______
Corrective Action	$______
Plugging and Abandonment	$______
Total	$______

This [insert: "owner or operator," or "guarantor"] has not received an adverse opinion, a disclaimer of opinion, or a "going concern" qualification from an independent auditor on his financial statements for the latest completed fiscal year.

[Fill in the information for Alternative I if the criteria of paragraph (b) of § 280.95 are being used to demonstrate compliance with the financial test requirements. Fill in the information for Alternative II if the criteria of paragraph (c) of § 280.95 are being used to demonstrate compliance with the financial test requirements.]

Alternative I

1. Amount of annual UST aggregate coverage being assured by a financial test, and/or guarantee $______
2. Amount of corrective action, closure and post-closure care costs, liability coverage, and plugging and abandonment costs covered by a financial test, and/or guarantee $______
3. Sum of lines 1 and 2 $______
4. Total tangible assets $______
5. Total liabilities [if any of the amount reported on line 3 is included in total liabilities, you may deduct that amount from this line and add that amount to line 6] $______
6. Tangible net worth [subtract line 5 from line 4] $______

	Yes	No
7. Is line 6 at least $10 million?	___	_
8. Is line 6 at least 10 times line 3?	___	_
9. Have financial statements for the latest fiscal year been filed with the Securities and Exchange Commission?	___	_
10. Have financial statements for the latest fiscal year been filed with the Energy Information Administration?	___	_
11. Have financial statements for the lastest fiscal year been filed with the Rural Electrification Administration?	___	_

Alternative I—Continued

12. Has financial information been provided to Dun and Bradstreet, and has Dun and Bradstreet provided a financial strength rating of 4A or 5A? [Answer "Yes" only if both criteria have been met.] ____ ____

Alternative II

1. Amount of annual UST aggregate coverage being assured by a test, and/or guarantee $____
2. Amount of corrective action, closure and post-closure care costs, liability coverage, and plugging and abandonment costs covered by a financial test, and/or guarantee $____
3. Sum of lines 1 and 2 $____
4. Total tangible assets $____
5. Total liabilities [if any of the amount reported on line 3 is included in total liabilities, you may deduct that amount from this line and add that amount to line 6] $____
6. Tangible net worth [subtract line 5 from line 4] $____
7. Total assets in the U.S. [required only if less than 90 percent of assets are located in the U.S.] $____

Yes No

8. Is line 6 at least $10 million? $____ ____
9. Is line 6 at least 6 times line 3? ____ ____
10. Are at least 90 percent of assets located in the U.S.? [If "No," complete line 11.] ____ ____
11. Is line 7 at least 6 times line 3? ____ ____

[Fill in either lines 12-15 or lines 16-18:]

12. Current assets $____
13. Current liabilities ____

Alternative I—Continued

14. Net working capital [subtract line 13 from line 12] ____

Yes No

15. Is line 14 at least 6 times line 3? ____ ____
16. Current bond rating of most recent bond issue ____ ____
17. Name of rating service ____ ____
18. Date of maturity of bond ____ ____
19. Have financial statements for the latest fiscal year been filed with the SEC, the Energy Information Administration, or the Rural Electrification Administration? ____ ____

[If "No," please attach a report from an independent certified public accountant certifying that there are no material differences between the data as reported in lines 4-18 above and the financial statements for the latest fiscal year.]

[For both Alternative I and Alternative II complete the certification with this statement.]

I hereby certify that the wording of this letter is identical to the wording specified in 40 CFR Part 280.95(d) as such regulations were constituted on the date shown immediately below.

[Signature]
[Name]
[Title]
[Date]

(e) If an owner or operator using the test to provide financial assurance finds that he or she no longer meets the requirements of the financial test based on the year-end financial statements, the owner or operator must obtain alternative coverage within 150 days of the end of the year for which financial statements have been prepared.

(f) The Director of the implementing agency may require reports of financial condition at any time from the owner or operator, and/or guarantor. If the Director finds, on the basis of such reports or other information, that the owner or operator, and/or guarantor, no longer meets the finan-

test requirements of § 280.95(b) or
and (d), the owner or operator
t obtain alternate coverage within
days after notification of such a
ing.

) If the owner or operator fails to
in alternate assurance within 150
s of finding that he or she no
er meets the requirements of the
ncial test based on the year-end fi-
cial statements, or within 30 days
otification by the Director of the
lementing agency that he or she
longer meets the requirements of
financial test, the owner or opera-
must notify the Director of such
ure within 10 days.

0.96 Guarantee.

) An owner or operator may satisfy
requirements of § 280.93 by obtain-
a guarantee that conforms to the
uirements of this section. The
rantor must be:

) A firm that (i) possesses a con-
lling interest in the owner or opera-
; (ii) possesses a controlling interest
a firm described under paragraph
1)(i) of this section; or, (iii) is con-
lled through stock ownership by a
nmon parent firm that possesses a
trolling interest in the owner or op-
tor; or,

2) A firm engaged in a substantial
siness relationship with the owner
operator and issuing the guarantee
an act incident to that business re-
ionship.

b) Within 120 days of the close of
h financial reporting year the guar-
tor must demonstrate that it meets
financial test criteria of § 280.95
sed on year-end financial statements
the latest completed financial re-
rting year by completing the letter
m the chief financial officer de-
ibed in § 280.95(d) and must deliver
e letter to the owner or operator. If
e guarantor fails to meet the re-
irements of the financial test at the
d of any financial reporting year,
thin 120 days of the end of that fi-
ncial reporting year the guarantor
all send by certified mail, before
ncellation or nonrenewal of the
arantee, notice to the owner or op-
ator. If the Director of the imple-
enting agency notifies the guarantor
at he no longer meets the requirements of the financial test of § 280.95 (b) or (c) and (d), the guarantor must notify the owner or operator within 10 days of receiving such notification from the Director. In both cases, the guarantee will terminate no less than 120 days after the date the owner or operator receives the notification, as evidenced by the return receipt. The owner or operator must obtain alternative coverage as specified in § 280.110(c).

(c) The guarantee must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

GUARANTEE

Guarantee made this [date] by [name of guaranteeing entity], a business entity organized under the laws of the state of [name of state], herein referred to as guarantor, to [the state implementing agency] and to any and all third parties, and obligees, on behalf of [owner or operator] of [business address].

Recitals.

(1) Guarantor meets or exceeds the financial test criteria of 40 CFR 280.95 (b) or (c) and (d) and agrees to comply with the requirements for guarantors as specified in 40 CFR 280.96(b).

(2) [Owner or operator] owns or operates the following underground storage tank(s) covered by this guarantee: [List the number of tanks at each facility and the name(s) and address(es) of the facility(ies) where the tanks are located. If more than one instrument is used to assure different tanks at any one facility, for each tank covered by this instrument, list the tank identification number provided in the notification submitted pursuant to 40 CFR 280.22 or the corresponding state requirement, and the name and address of the facility.] This guarantee satisfies 40 CFR Part 280, Subpart H requirements for assuring funding for [insert: "taking corrective action" and/or "compensating third parties for bodily injury and property damage caused by" either "sudden accidental releases" or "nonsudden accidental releases" or "accidental releases"; if coverage is different for different tanks or locations, indicate the type of coverage applicable to each tank or location] arising from operating the above-identified underground storage tank(s) in the amount of [insert dollar amount] per occurrence and [insert dollar amount] annual aggregate.

(3) [Insert appropriate phrase: "On behalf of our subsidiary" (if guarantor is corporate

parent of the owner or operator); "On behalf of our affiliate" (if guarantor is a related firm of the owner or operator); or "Incident to our business relationship with" (if guarantor is providing the guarantee as an incident to a substantial business relationship with owner or operator)] [owner or operator], guarantor guarantees to [implementing agency] and to any and all third parties that:

In the event that [owner or operator] fails to provide alternative coverage within 60 days after receipt of a notice of cancellation of this guarantee and the [Director of the implementing agency] has determined or suspects that a release has occurred at an underground storage tank covered by this guarantee, the guarantor, upon instructions from the [Director], shall fund a standby trust fund in accordance with the provisions of 40 CFR 280.108, in an amount not to exceed the coverage limits specified above.

In the event that the [Director] determines that [owner or operator] has failed to perform corrective action for releases arising out of the operation of the above-identified tank(s) in accordance with 40 CFR Part 280, Subpart F, the guarantor upon written instructions from the [Director] shall fund a standby trust in accordance with the provisions of 40 CFR 280.108, in an amount not to exceed the coverage limits specified above.

If [owner or operator] fails to satisfy a judgment or award based on a determination of liability for bodily injury or property damage to third parties caused by ["sudden" and/or "nonsudden"] accidential releases arising from the operation of the above-identified tank(s), or fails to pay an amount agreed to in settlement of a claim arising from or alleged to arise from such injury or damage, the guarantor, upon written instructions from the [Director], shall fund a standby trust in accordance with the provisions of 40 CFR 280.108 to satisfy such judgment(s), award(s), or settlement agreement(s) up to the limits of coverage specified above.

(4) Guarantor agrees that if, at the end of any fiscal year before cancellation of this guarantee, the guarantor fails to meet the financial test criteria of 40 CFR 280.95 (b) or (c) and (d), guarantor shall send within 120 days of such failure, by certified mail, notice to [owner or operator]. The guarantee will terminate 120 days from the date of receipt of the notice by [owner or operator], as evidenced by the return receipt.

(5) Guarantor agrees to notify [owner or operator] by certified mail of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code naming guarantor as debtor, within 10 days after commencement of the proceeding.

(6) Guarantor agrees to remain bound under this guarantee notwithstanding any modification or alteration of any obligation of [owner or operator] pursuant to 40 CFR Part 280.

(7) Guarantor agrees to remain bound under this guarantee for so long as [owner or operator] must comply with the applicable financial responsibility requirements of 40 CFR Part 280, Subpart H for the above-identified tank(s), except that guarantor may cancel this guarantee by sending notice by certified mail to [owner or operator], such cancellation to become effective no earlier than 120 days after receipt of such notice by [owner or operator], as evidenced by the return receipt.

(8) The guarantor's obligation does not apply to any of the following:

(a) Any obligation of [insert owner or operator] under a workers' compensation, disability benefits, or unemployment compensation law or other similar law;

(b) Bodily injury to an employee of [insert owner or operator] arising from, and in the course of, employment by [insert owner or operator];

(c) Bodily injury or property damage arising from the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft;

(d) Property damage to any property owned, rented, loaded to, in the care, custody, or control of, or occupied by [insert owner or operator] that is not the direct result of a release from a petroleum underground storage tank;

(e) Bodily damage or property damage for which [insert owner or operator] is obligated to pay damages by reason of the assumption of liability in a contract or agreement other than a contract or agreement entered into to meet the requirements of 40 CFR 280.93.

(9) Guarantor expressly waives notice of acceptance of this guarantee by [the implementing agency], by any or all third parties, or by [owner or operator].

I hereby certify that the wording of this guarantee is identical to the wording specified in 40 CFR 280.96(c) as such regulations were constituted on the effective date shown immediately below.

Effective date: ——————————
[Name of guarantor]
[Authorized signature for guarantor]
[Name of person signing]
[Title of person signing]
Signature of witness or notary:
————————————————

(d) An owner or operator who uses a guarantee to satisfy the requirements of § 280.93 must establish a standby trust fund when the guarantee is obtained. Under the terms of the guarantee, all amounts paid by the guarantor under the guarantee will be deposited ctly into the standby trust fund in ordance with instructions from the ector of the implementing agency ler § 280.108. This standby trust d must meet the requirements cified in § 280.103.

0.97 Insurance and risk retention group coverage.

) An owner or operator may satisfy requirements of § 290.93 by obtain- liability insurance that conforms the requirements of this section m a qualified insurer or risk reten- n group. Such insurance may be in form of a separate insurance icy or an endorsement to an exist- insurance policy.

b) Each insurance policy must be ended by an endorsement worded specified in paragraph (b)(1) of this tion, or evidenced by a certificate of urance worded as specified in para- ph (b)(2) of this section, except t instructions in brackets must be laced with the relevant informa- n and the brackets deleted:

(1) Endorsement

me: [name of each covered location] ______________________________
____

dress: [address of each covered location] ______________________________
____

licy Number: ______________________

riod of Coverage: [current policy period] ______________________________
____

me of [Insurer or Risk Retention oup]: ______________________________
____

dress of [Insurer or Risk Retention oup]: ______________________________
____

me of Insured: ______________________

dress of Insured: ______________________
____

ENDORSEMENT:

1. This endorsement certifies that the licy to which the endorsement is attached ovides liability insurance covering the fol- wing underground storage tanks:

[List the number of tanks at each facility and the name(s) and address(es) of the facility(ies) where the tanks are located. If more than one instrument is used to assure different tanks at any one facility, for each tank covered by this instrument, list the tank identification number provided in the notification submitted pursuant to 40 CFR 280.22, or the corresponding state requirement, and the name and address of the facility.]

for [insert: "taking corrective action" and/or "compensating third parties for bodily injury and property damage caused by" either "sudden accidental releases" or "nonsudden accidental releases" or "accidental releases"; in accordance with and subject to the limits of liability, exclusions, conditions, and other terms of the policy; if coverage is different for different tanks or locations, indicate the type of coverage applicable to each tank or location] arising from operating the underground storage tank(s) identified above.

The limits of liability are [insert the dollar amount of the "each occurrence" and "annual aggregate" limits of the Insurer's or Group's liability; if the amount of coverage is different for different types of coverage or for different underground storage tanks or locations, indicate the amount of coverage for each type of coverage and/or for each underground storage tank or location], exclusive of legal defense costs, which are subject to a separate limit under the policy. This coverage is provided under [policy number]. The effective date of said policy is [date].

2. The insurance afforded with respect to such occurrences is subject to all of the terms and conditions of the policy; provided, however, that any provisions inconsistent with subsections (a) through (e) of this Paragraph 2 are hereby amended to conform with subsections (a) through (e);

a. Bankruptcy or insolvency of the insured shall not relieve the ["Insurer" or "Group"] of its obligations under the policy to which this endorsement is attached.

b. The ["Insurer" or "Group"] is liable for the payment of amounts within any deductible applicable to the policy to the provider of corrective action or a damaged third-party, with a right of reimbursement by the insured for any such payment made by the ["Insurer" or "Group"]. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated under another mechanism or combination of mechanisms as specified in 40 CFR 280.95–280.102.

c. Whenever requested by [a Director of an implementing agency], the ["Insurer" or "Group"] agrees to furnish to [the Director] a signed duplicate original of the policy and all endorsements.

d. Cancellation or any other termination of the insurance by the ["Insurer" or "Group"], except for non-payment of premium or misrepresentation by the insured, will be effective only upon written notice and only after the expiration of 60 days after a copy of such written notice is received by the insured. Cancellation for nonpayment of premium or misrepresentation by the insured will be effective only upon written notice and only after expiration of a minimum of 10 days after a copy of such written notice is received by the insured.

[Insert for claims-made policies:

e. The insurance covers claims otherwise covered by the policy that are reported to the ["Insurer" or "Group"] within six months of the effective date of cancellation or non-renewal of the policy except where the new or renewed policy has the same retroactive date or a retroactive date earlier than that of the prior policy, and which arise out of any covered occurrence that commenced after the policy retroactive date, if applicable, and prior to such policy renewal or termination date. Claims reported during such extended reporting period are subject to the terms, conditions, limits, including limits of liability, and exclusions of the policy.]

I hereby certify that the wording of this instrument is identical to the wording in 40 CFR 280.97(b)(1) and that the ["Insurer" or "Group"] is ["licensed to transact the business of insurance or eligible to provide insurance as an excess or surplus lines insurer in one or more states"].

[Signature of authorized representative of Insurer or Risk Retention Group]

[Name of person signing]

[Title of person signing], Authorized Representative of [name of Insurer or Risk Retention Group]

[Address of Representative]

(2) CERTIFICATE OF INSURANCE

Name: [name of each covered location]
——————————————————
——————————————————

Address: [address of each covered location]
——————————————————
——————————————————

Policy Number: ——————————

Endorsement (if applicable): ——————

Period of Coverage: [current policy period]
——————————————————

Name of [Insurer or Risk Retention Group]:
——————————————————
——————————————————

Address of [Insurer or Risk Retention Group]:
——————————————————
——————————————————

Name of Insured: ——————————

Address of Insured:
——————————————————
——————————————————
——————————————————

Certification:

1. [Name of Insurer or Risk Retention Group], [the "Insurer" or "Group"], as identified above, hereby certifies that it has issued liability insurance covering the following underground storage tank(s):

[List the number of tanks at each facility and the name(s) and address(es) of the facility(ies) where the tanks are located. If more than one instrument is used to assure different tanks at any one facility, for each tank covered by this instrument, list the tank identification number provided in the notification submitted pursuant to 40 CFR 280.22, or the corresponding state requirement, and the name and address of the facility.]

for [insert: "taking corrective action" and/or "compensating third parties for bodily injury and property damage caused by" either "sudden accidental releases" or "nonsudden accidental releases" or "accidental releases"; in accordance with and subject to the limits of liability, exclusions, conditions, and other terms of the policy; if coverage is different for different tanks or locations, indicate the type of coverage applicable to each tank or location] arising from operating the underground storage tank(s) identified above.

The limits of liability are [insert the dollar amount of the "each occurrence" and "annual aggregate" limits of the Insurer's or Group's liability; if the amount of coverage is different for different types of coverage or for different underground storage tanks or locations, indicate the amount of coverage for each type of coverage and/or for each underground storage tank or location], exclusive of legal defense costs, which are subject to a separate limit under the policy. This coverage is provided under [policy number]. The effective date of said policy is [date].

2. The ["Insurer" or "Group"] further certifies the following with respect to the insurance described in Paragraph 1:

a. Bankruptcy or insolvency of the insured shall not relieve the ["Insurer" or "Group"] of its obligations under the policy to which this certificate applies.

b. The ["Insurer" or "Group"] is liable for the payment of amounts within any deductible applicable to the policy to the provider of corrective action or a damaged third-party, with a right of reimbursement by the insured for any such payment made by the ["Insurer" or "Group"]. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated under another mechanism or combination of mechanisms as specified in 40 CFR 280.95-280.102.

henever requested by [a Director of
plementing agency], the ["Insurer" or
p"] agrees to furnish to [the Direc-
signed duplicate original of the policy
l endorsements.

ancellation or any other termination
e insurance by the ["Insurer" or
p"], except for non-payment of pre-
or misrepresentation by the insured,
e effective only upon written notice
nly after the expiration of 60 days
a copy of such written notice is re-
by the insured. Cancellation for non-
ent of premium or misrepresentation
e insured will be effective only upon
n notice and only after expiration of a
um of 10 days after a copy of such
n notice is received by the insured.

ert for claims-made policies:

he insurance covers claims otherwise
ed by the policy that are reported to
"Insurer" or "Group"] within six
ns of the effective date of cancellation
n-renewal of the policy except where
ew or renewed policy has the same ret-
ve date or a retroactive date earlier
that of the prior policy, and which
out of any covered occurrence that
enced after the policy retroactive
if applicable, and prior to such policy
al or termination date. Claims report-
ring such extended reporting period
ubject to the terms, conditions, limits,
ding limits of liability, and exclusions
e policy.]

ereby certify that the wording of this
ment is identical to the wording in 40
280.97(b)(2) and that the ["Insurer" or
up"] is ["licensed to transact the busi-
of insurance, or eligible to provide in-
ce as an excess or surplus lines insurer,
e or more states"].

ature of authorized representative of
urer]
e name]
e], Authorized Representative of [name
nsurer or Risk Retention Group]
ress of Representative]

Each insurance policy must be
ed by an insurer or a risk retention
p that, at a minimum, is licensed
ransact the business of insurance
ligible to provide insurance as an
ss or surplus lines insurer in one
ore states.

FR 43370, Oct. 26, 1988, as amended at
R 47081, Nov. 9, 1989]

.98 Surety bond.

) An owner or operator may satisfy
requirements of § 280.93 by obtain-
a surety bond that conforms to the
irements of this section. The
ty company issuing the bond must be among those listed as acceptable sureties on federal bonds in the latest Circular 570 of the U.S. Department of the Treasury.

(b) The surety bond must be worded as follows, except that instructions in brackets must be replaced with the relevant information and the brackets deleted:

PERFORMANCE BOND

Date bond executed: ————————————

Period of coverage: ————————————

Principal: [legal name and business address of owner or operator]

————————————————————————

Type of organization: [insert "individual," "joint venture," "partnership," or "corporation"]

————————————————————————

State of incorporation (if applicable):

————————————————————————

Surety(ies): [name(s) and business address(es)]

————————————————————————

Scope of Coverage: [List the number of tanks at each facility and the name(s) and address(es) of the facility(ies) where the tanks are located. If more than one instrument is used to assure different tanks at any one facility, for each tank covered by this instrument, list the tank identification number provided in the notification submitted pursuant to 40 CFR 280.22, or the corresponding state requirement, and the name and address of the facility. List the coverage guaranteed by the bond: "taking corrective action" and/or "compensating third parties for bodily injury and property damage caused by" either "sudden accidental releases" or "nonsudden accidental releases" or "accidental releases" "arising from operating the underground storage tank"].

Penal sums of bond:

Per occurrence $————————————

Annual aggregate $ ————————————

Surety's bond number: ————————————

Know All Persons by These Presents, that we, the Principal and Surety(ies), hereto are firmly bound to [the implementing agency], in the above penal sums for the payment of which we bind ourselves, our heirs, executors, administrators, successors, and assigns jointly and severally; provided that, where the Surety(ies) are corporations acting as co-sureties, we, the Sureties, bind ourselves in such sums jointly and severally only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sums only as is set forth opposite the name of such Surety, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sums.

Whereas said Principal is required under Subtitle I of the Resource Conservation and Recovery Act (RCRA), as amended, to provide financial assurance for [insert: "taking corrective action" and/or "compensating third parties for bodily injury and property damage caused by" either "sudden accidental releases" or "nonsudden accidental releases" or "accidental releases"; if coverage is different for different tanks or locations, indicate the type of coverage applicable to each tank or location] arising from operating the underground storage tanks identified above, and

Whereas said Principal shall establish a standby trust fund as is required when a surety bond is used to provide such financial assurance;

Now, therefore, the conditions of the obligation are such that if the Principal shall faithfully ["take corrective action, in accordance with 40 CFR Part 280, Subpart F and the Director of the state implementing agency's instructions for," and/or "compensate injured third parties for bodily injury and property damage caused by" either "sudden" or "nonsudden" or "sudden and nonsudden"] accidental releases arising from operating the tank(s) indentified above, or if the Principal shall provide alternate financial assurance, as specified in 40 CFR Part 280, Subpart H, within 120 days after the date the notice of cancellation is received by the Principal from the Surety(ies), then this obligation shall be null and void; otherwise it is to remain in full force and effect.

Such obligation does not apply to any of the following:

(a) Any obligation of [insert owner or operator] under a workers' compensation, disability benefits, or unemployment compensation law or other similar law;

(b) Bodily injury to an employee of [insert owner or operator] arising from, and in the course of, employment by [insert owner or operator];

(c) Bodily injury or property damage arising from the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft;

(d) Property damage to any property owned, rented, loaned to, in the care, custody, or control of, or occupied by [insert owner or operator] that is not the direct result of a release from a petroleum underground storage tank;

(e) Bodily injury or property damage for which [insert owner or operator] is obligated to pay damages by reason of the assumption of liability in a contract or agreement other than a contract or agreement entered into to meet the requirements of 40 CFR 280.93.

The Surety(ies) shall become liable on this bond obligation only when the Principal has failed to fulfill the conditions described above.

Upon notification by [the Director of the implementing agency] that the Principal has failed to ["take corrective action, in accordance with 40 CFR Part 280, Subpart F and the Director's instructions," and/or "compensate injured third parties"] as guaranteed by this bond, the Surety(ies) shall either perform ["corrective action in accordance with 40 CFR Part 280 and the Director's instructions," and/or "third-party liability compensation"] or place funds in an amount up to the annual aggregate penal sum into the standby trust fund as directed by [the Regional Administrator or the Director] under 40 CFR 280.108.

Upon notification by [the Director] that the Principal has failed to provide alternate financial assurance within 60 days after the date the notice of cancellation is received by the Principal from the Surety(ies) and that [the Director] has determined or suspects that a release has occurred, the Surety(ies) shall place funds in an amount not exceeding the annual aggregate penal sum into the standby trust fund as directed by [the Director] under 40 CFR 280.108.

The Surety(ies) hereby waive(s) notification of amendments to applicable laws, statutes, rules, and regulations and agrees that no such amendment shall in any way alleviate its (their) obligation on this bond.

The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the annual aggregate to the penal sum shown on the face of the bond, but in no event shall the obligation of the Surety(ies) hereunder exceed the amount of said annual aggregate penal sum.

The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the Principal, provided, however, that cancellation shall not occur during the 120 days beginning on the date of receipt of the notice of cancellation by the Principal, as evidenced by the return receipt.

The Principal may terminate this bond by sending written notice to the Surety(ies).

In Witness Thereof, the Principal and Surety(ies) have executed this Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in 40 CFR 280.98(b) as such regulations were constituted on the date this bond was executed.

Principal

gnature(s)]
ames(s)]
itle(s)]
orporate seal]

Corporate Surety(ies)

ame and address]
tate of Incorporation: ________
iability limit: $________
ignature(s)]
ames(s) and title(s)]
orporate seal]

For every co-surety, provide signature(s), rporate seal, and other information in the me manner as for Surety above.]

ond premium: $________

(c) Under the terms of the bond, the rety will become liable on the bond bligation when the owner or operator ils to perform as guaranteed by the ond. In all cases, the surety's liability limited to the per-occurrence and nnual aggregate penal sums.

(d) The owner or operator who uses surety bond to satisfy the require-ents of § 280.93 must establish a andby trust fund when the surety ond is acquired. Under the terms of e bond, all amounts paid by the rety under the bond will be deposit-d directly into the standby trust fund accordance with instructions from e Director under § 280.108. This andby trust fund must meet the re-uirements specified in § 280.103.

280.99 Letter of credit.

(a) An owner or operator may satisfy e requirements of § 280.93 by obtain-g an irrevocable standby letter of redit that conforms to the require-ents of this section. The issuing in-titution must be an entity that has e authority to issue letters of credit each state where used and whose etter-of-credit operations are regulat-d and examined by a federal or state gency.

(b) The letter of credit must be orded as follows, except that instruc-ions in brackets are to be replaced ith the relevant information and the rackets deleted:

IRREVOCABLE STANDBY LETTER OF CREDIT

Name and address of issuing institution]
Name and address of Director(s) of state implementing agency(ies)]

Dear Sir or Madam: We hereby establish our Irrevocable Standby Letter of Credit No. —— in your favor, at the request and for the account of [owner or operator name] of [address] up to the aggregate amount of [in words] U.S. dollars ($[insert dollar amount]), available upon presentation [insert, if more than one Director of a state implementing agency is a beneficiary, "by any one of you"] of

(1) your sight draft, bearing reference to this letter of credit, No. ——, and

(2) your signed statement reading as follows: "I certify that the amount of the draft is payable persuant to regulations issued under authority of Subtitle I of the Resource Conservation and Recovery Act of 1976, as amended."

This letter of credit may be drawn on to cover [insert: "taking corrective action" and/or "compensating third parties for bodily injury and property damage caused by" either "sudden accidental releases" or "nonsudden accidental releases" or "accidental releases"] arising from operating the underground storage tank(s) identified below in the amount of [in words] $[insert dollar amount] per occurrence and [in words] $[insert dollar amount] annual aggregate:

[List the number of tanks at each facility and the name(s) and address(es) of the facility(ies) where the tanks are located. If more than one instrument is used to assure different tanks at any one facility, for each tank covered by this instrument, list the tank identification number provided in the notification submitted pursuant to 40 CFR 280.22, or the corresponding state requirement, and the name and address of the facility.]

The letter of credit may not be drawn on to cover any of the following:

(a) Any obligation of [insert owner or operator] under a workers' compensation, disability benefits, or unemployment compensation law or other similar law;

(b) Bodily injury to an employee of [insert owner or operator] arising from, and in the course of, employment by [insert owner or operator];

(c) Bodily injury or property damage arising from the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft;

(d) Property damage to any property owned, rented, loaned to, in the care, custody, or control of, or occupied by [insert owner or operator] that is not the direct result of a release from a petroleum underground storage tank;

(e) Bodily injury or property damage for which [insert owner or operator] is obligated to pay damages by reason of the assumption of liability in a contract or agreement other than a contract or agreement entered into to meet the requirements of 40 CFR 280.93.

This letter of credit is effective as of [date] and shall expire on [date], but such expiration date shall be automatically extended for a period of [at least the length of the original term] on [expiration date] and on each successive expiration date, unless, at least 120 days before the curent expiration date, we notify [owner or operator] by certified mail that we have decided not to extend this letter of credit beyond the current expiration date. In the event that [owner or operator] is so notified, any unused portion of the credit shall be available upon presentation of your sight draft for 120 days after the date of receipt by [owner or operator], as shown on the signed return receipt.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us, and we shall deposit the amount of the draft directly into the standby trust fund of [owner or operator] in accordance with your instructions.

We certify that the wording of this letter of credit is identical to the wording specified in 40 CFR 280.99(b) as such regulations were constituted on the date shown immediately below.

[Signature(s) and title(s) of official(s) of issuing institution]

[Date]

This credit is subject to [insert "the most recent edition of the Uniform Customs and Practice for Documentary Credits, published by the International Chamber of Commerce," or "the Uniform Commercial Code"].

(c) An owner or operator who uses a letter of credit to satisfy the requirements of § 280.93 must also establish a standby trust fund when the letter of credit is acquired. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the Director of the implementing agency will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the Director under § 280.108. This standby trust fund must meet the requirements specified in § 280.103.

(d) The letter of credit must be irrevocable with a term specified by the issuing institution. The letter of credit must provide that credit be automatically renewed for the same term as the original term, unless, at least 120 days before the current expiration date, the issuing institution notifies the owner or operator by certified mail of its decision not to renew the letter of credit. Under the terms of the letter of credit, the 120 days will begin on the date when the owner or operator receives the notice, as evidenced by the return receipt.

§ 280.100 Use of state-required mechanism.

(a) For underground storage tanks located in a state that does not have an approved program, and where the state requires owners or operators of underground storage tanks to demonstrate financial responsibility for taking corrective action and/or for compensating third parties for bodily injury and property damage, an owner or operator may use a state-required financial mechanism to meet the requirements of § 280.93 if the Regional Administrator determines that the state mechanism is at least equivalent to the financial mechanisms specified in this subpart.

(b) The Regional Administrator will evaluate the equivalency of a state-required mechanism principally in terms of: certainty of the availability of funds for taking corrective action and/or for compensating third parties; the amount of funds that will be made available; and the types of costs covered. The Regional Administrator may also consider other factors as is necessary.

(c) The state, an owner or operator, or any other interested party may submit to the Regional Administrator a written petition requesting that one or more of the state-required mechanisms be considered acceptable for meeting the requirements of § 280.93. The submission must include copies of the appropriate state statutory and regulatory requirements and must show the amount of funds for corrective action and/or for compensating third parties assured by the mechanism(s). The Regional Administrator may require the petitioner to submit additional information as is deemed necessary to make this determination.

(d) Any petition under this section may be submitted on behalf of all of

e state's underground storage tank
vners and operators.
(e) The Regional Administrator will
otify the petitioner of his determina-
on regarding the mechanism's ac-
eptability in lieu of financial mecha-
sms specified in this subpart. Pend-
g this determination, the owners and
perators using such mechanisms will
e deemed to be in compliance with
e requirements of § 280.93 for under-
round storage tanks located in the
ate for the amounts and types of
osts covered by such mechanisms.

3 FR 43370, Oct. 26, 1988; 53 FR 51274,
ec. 21, 1988]

280.101 State fund or other state assurance.

(a) An owner or operator may satisfy
e requirements of § 280.93 for under-
round storage tanks located in a
ate, where EPA is administering the
equirements of this subpart, which
ssures that monies will be available
rom a state fund or state assurance
rogram to cover costs up to the limits
pecified in § 280.93 or otherwise as-
ures that such costs will be paid if the
Regional Administrator determines
hat the state's assurance is at least
quivalent to the financial mecha-
isms specified in this subpart.
(b) The Regional Administrator will
valuate the equivalency of a state
und or other state assurance princi-
ally in terms of: Certainty of the
vailability of funds for taking correc-
ive action and/or for compensating
hird parties; the amount of funds
hat will be made available; and the
ypes of costs covered. The Regional
Administrator may also consider other
actors as is necessary.
(c) The state must submit to the Re-
gional Administrator a description of
the state fund or other state assurance
to be supplied as financial assurance,
along with a list of the classes of un-
derground storage tanks to which the
funds may be applied. The Regional
Administrator may require the state
to submit additional information as is
deemed necessary to make a determi-
nation regarding the acceptability of
the state fund or other state assur-
ance. Pending the determination by
the Regional Administrator, the owner
or operator of a covered class of USTs will be deemed to be in compliance with the requirements of § 280.93 for the amounts and types of costs covered by the state fund or other state assurance.

(d) The Regional Administrator will notify the state of his determination regarding the acceptability of the state's fund or other assurance in lieu of financial mechanisms specified in this subpart. Within 60 days after the Regional Administrator notifies a state that a state fund or other state assurance is acceptable, the state must provide to each owner or operator for which it is assuming financial responsibility a letter or certificate describing the nature of the state's assumption of responsibility. The letter or certificate from the state must include, or have attached to it, the following information: the facility's name and address and the amount of funds for corrective action and/or for compensating third parties that is assured by the state. The owner or operator must maintain this letter or certificate on file as proof of financial responsibility in accordance with § 280.107(b)(5).

§ 280.102 Trust fund.

(a) An owner or operator may satisfy the requirements of § 280.93 by establishing a trust fund that conforms to the requirements of this section. The trustee must be an entity that has the authority to act as a trustee and whose trust operations are regulated and examined by a federal agency or an agency of the state in which the fund is established.

(b) The wording of the trust agreement must be identical to the wording specified in § 280.103(b)(1), and must be accompanied by a formal certification of acknowledgement as specified in § 280.103(b)(2).

(c) The trust fund, when established, must be funded for the full required amount of coverage, or funded for part of the required amount of coverage and used in combination with other mechanism(s) that provide the remaining required coverage.

(d) If the value of the trust fund is greater than the required amount of coverage, the owner or operator may submit a written request to the Director of the implementing agency for release of the excess.

(e) If other financial assurance as specified in this subpart is substituted for all or part of the trust fund, the owner or operator may submit a written request to the Director of the implementing agency for release of the excess.

(f) Within 60 days after receiving a request from the owner or operator for release of funds as specified in paragraph (d) or (e) of this section, the Director of the implementing agency will instruct the trustee to release to the owner or operator such funds as the Director specifies in writing.

§ 280.103 Standby trust fund.

(a) An owner or operator using any one of the mechanisms authorized by §§ 280.96, 280.98, or 280.99 must establish a standby trust fund when the mechanism is acquired. The trustee of the standby trust fund must be an entity that has the authority to act as a trustee and whose trust operations are regulated and examined by a Federal agency or an agency of the state in which the fund is established.

(b)(1) The standby trust agreement, or trust agreement, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

TRUST AGREEMENT

Trust agreement, the "Agreement," entered into as of [date] by and between [name of the owner or operator], a [name of state] [insert "corporation," "partnership," "association," or "proprietorship"], the "Grantor," and [name of corporate trustee], [insert "Incorporated in the state of ____" or "a national bank"], the "Trustee."

Whereas, the United States Environmental Protection Agency, "EPA," an agency of the United States Government, has established certain regulations applicable to the Grantor, requiring that an owner or operator of an underground storage tank shall provide assurance that funds will be available when needed for corrective action and third-party compensation for bodily injury and property damage caused by sudden and nonsudden accidental releases arising from the operation of the underground storage tank. The attached Schedule A lists the number of tanks at each facility and the name(s) and address(es) of the facility(ies) where the tanks are located that are covered by the standpoint trust agreement.

[Whereas, the Grantor has elected to establish [insert either "a guarantee," "surety bond," or "letter of credit"] to provide all or part of such financial assurance for the underground storage tanks identified herein and is required to establish a standby trust fund able to accept payments from the instrument (This paragraph is only applicable to the standby trust agreement.)];

Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee;

Now, therefore, the Grantor and the Trustee agree as follows:

Section 1. Definitions

As used in this Agreement:

(a) The term "Grantor" means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.

Section 2. Identification of the Financial Assurance Mechanism.

This Agreement pertains to the [identify the financial assurance mechanism, either a guarantee, surety bond, or letter of credit, from which the standby trust fund is established to receive payments (This paragraph is only applicable to the standby trust agreement.)].

Section 3. Establishment of Fund.

The Grantor and the Trustee hereby establish a trust fund, the "Fund," for the benefit of [implementing agency]. The Grantor and the Trustee intend that no third party have access to the Fund except as herein provided. [The Fund is established initially as a standby to receive payments and shall not consist of any property.] Payments made by the provider of financial assurance pursuant to [the Director of the implementing agency's] instruction are transferred to the Trustee and are referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor as provider of financial assurance, any payments necessary to discharge any liability of the Grantor established by [the state implementing agency].

Section 4. Payment for ["Corrective Action" and/or Third-Party Liability Claims"].

The Trustee shall make payments from the Fund as [the Director of the implementing agency] shall direct, in writing, to provide for the payment of the costs of [insert: "taking corrective action" and/or compensating third parties for bodily injury and property damage caused by" either "sudden accidental releases" or "nonsudden accidental releases" or "accidental releases"] arising from operating the tanks covered by the financial assurance mechanism identified in this Agreement.

The Fund may not be drawn upon to cover any of the following:

(a) Any obligation of [insert owner or operator] under a workers' compensation, disability benefits, or unemployment compensation law or other similar law;

(b) Bodily injury to an employee of [insert owner or operator] arising from, and in the course of employment by [insert owner or operator];

(c) Bodily injury or property damage arising from the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft;

(d) Property damage to any property owned, rented, loaned to, in the care, custody, or control of, or occupied by [insert owner or operator] that is not the direct result of a release from a petroleum underground storage tank;

(e) Bodily injury or property damage for which [insert owner or operator] is obligated to pay damages by reason of the assumption of liability in a contract or agreement other than a contract or agreement entered into to meet the requirements of 40 CFR 280.93.

The Trustee shall reimburse the Grantor, or other persons as specified by [the Director], from the Fund for corrective action expenditures and/or third-party liability claims in such amounts as [the Director] shall direct in writing. In addition, the Trustee shall refund to the Grantor such amounts as [the Director] specifies in writing. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

Section 5. Payments Comprising the Fund

Payments made to the Trustee for the Fund shall consist of cash and securities acceptable to the Trustee.

Section 6. Trustee Management.

The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiaries and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

(i) Securities or other obligations of the Grantor, or any other owner or operator of the tanks, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2(a), shall not be acquired or held, unless they are securities or other obligations of the federal or a state government;

(ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the federal or state government; and

(iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment

The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee

Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

(b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depository with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the federal or state government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses

All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. Advice of Counsel

The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any questions arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 11. Trustee Compensation

The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 12. Successor Trustee

The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in writing sent to the Grantor and the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 9.

Section 13. Instructions to the Trustee.

All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are designated in the attached Schedule B or such other designees as the Grantor may designate by amendment to Schedule B. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by [the Director of the implementing agency] to the Trustee shall be in writing, signed by [the Director], and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or [the director] hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or [the Director], except as provided for herein.

Section 14. Amendment of Agreement

This Agreement may be amended by an instrument in writing executed by the Grantor and the Trustee, or by the Trustee and [the Director of the implementing agency] if the Grantor ceases to exist.

Section 15. Irrevocability and Termination

Subject to the right of the parties to amend this Agreement as provided in Section 14, this Trust shall be irrevocable and shall continue until terminated at the written direction of the Grantor and the Trustee, or by the Trustee and [the Director of the implementing agency], if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

Section 16. Immunity and Indemnification

The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or [the Director of the implementing agency] issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 17. Choice of Law

This Agreement shall be administered, construed, and enforced according to the laws of the state of [insert name of state], or the Comptroller of the Currency in the case of National Association banks.

Section 18. Interpretation

As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

In Witness whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals (if applicable) to be hereunto affixed and attested as of the date first above written. The parties below certify that the wording of this Agreement is identical to the wording specified in 40 CFR 280.103(b)(1) as such regulations were constituted on the date written above.

[Signature of Grantor]
[Name of the Grantor]
[Title]

Attest:
[Signature of Trustee]
[Name of the Trustee]
[Title]
[Seal]
[Signature of Witness]
[Name of the Witness]
[Title]
[Seal]

(2) The standby trust agreement, or trust agreement must be accompanied by a formal certification of acknowledgement similar to the following. State requirements may differ on the proper content of this acknowledgment.

State of ————————————

County of ————————————

On this [date], before me personally came [owner or operator] to me known, who, being by me duly sworn, did depose and say, that she/he resides at [address], that she/he is [title] of [corporation], the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation; and that she/he signed her/his name thereto by like order.

[Signature of Notary Public]
[Name of Notary Public]

(c) The Director of the implementing agency will instruct the trustee to refund the balance of the standby trust fund to the provider of financial assurance if the Director determines that no additional corrective action costs or third-party liability claims will occur as a result of a release covered by the financial assurance mechanism for which the standby trust fund was established.

(d) An owner or operator may establish one trust fund as the depository mechanism for all funds assured in compliance with this rule.

[53 FR 43370, Oct. 26, 1988; 53 FR 51274, Dec. 21, 1988]

§ 280.104 Substitution of financial assurance mechanisms by owner or operator.

(a) An owner or operator may substitute any alternate financial assurance mechanisms as specified in this subpart, provided that at all times he maintains an effective financial assurance mechanism or combination of mechanisms that satisfies the requirements of § 280.93.

(b) After obtaining alternate financial assurance as specified in this subpart, an owner or operator may cancel a financial assurance mechanism by providing notice to the provider of financial assurance.

§ 280.105 Cancellation or nonrenewal by a provider of financial assurance.

(a) Except as otherwise provided, a provider of financial assurance may cancel or fail to renew an assurance mechanism by sending a notice of termination by certified mail to the owner or operator.

(1) Termination of a guarantee, a surety bond, or a letter of credit may not occur until 120 days after the date on which the owner or operator receives the notice of termination, as evidenced by the return receipt.

(2) Termination of insurance or risk retention group coverage, except for non-payment or misrepresentation by the insured, or state-funded assurance may not occur until 60 days after the date on which the owner or operator receives the notice of termination, as evidenced by the return receipt. Termination for non-payment of premium or misrepresentation by the insured may not occur until a minimum of 10 days after the date on which the owner or operator receives the notice of termination, as evidenced by the return receipt.

(b) If a provider of financial responsibility cancels or fails to renew for reasons other than incapacity of the provider as specified in §280.106, the owner or operator must obtain alternate coverage as specified in this section within 60 days after receipt of the notice of termination. If the owner or operator fails to obtain alternate coverage within 60 days after receipt of the notice of termination, the owner or operator must notify the Director of the implementing agency of such failure and submit:

(1) The name and address of the provider of financial assurance;

(2) The effective date of termination; and

(3) The evidence of the financial assistance mechanism subject to the termination maintained in accordance with § 280.107(b).

[53 FR 43370, Oct. 26, 1988, as amended at 54 FR 47082, Nov. 9, 1989]

§ 280.106 Reporting by owner or operator.

(a) An owner or operator must submit the appropriate forms listed in § 280.107(b) documenting current evidence of financial responsibility to the Director of the implementing agency:

(1) Within 30 days after the owner or operator identifies a release from an underground storage tank required to be reported under § 280.53 or § 280.61;

(2) If the owner or operator fails to obtain alternate coverage as required by this subpart, within 30 days after the owner or operator receives notice of:

(i) Commencement of a voluntary or involuntary proceeding under Title 11 (Bakruptcy), U.S. Code, naming a provider of financial assurance as a debtor,

(ii) Suspension or revocation of the authority of a provider of financial assurance to issue a financial assurance mechanism,

(iii) Failure of a guarantor to meet the requirements of the financial test,

(iv) Other incapacity of a provider of financial assurance; or

(3) As required by § 280.95(g) and § 280.105(b).

(b) An owner or operator must certify compliance with the financial responsibility requirements of this part as specified in the new tank notification form when notifying the appropriate state or local agency of the installation of a new underground storage tank under § 280.22.

(c) The Director of the Implementing Agency may require an owner or operator to submit evidence of financial assurance as described in § 280.107(b) or other information relevant to compliance with this subpart at any time.

(The information requirements in this section have been approved by the Office of Management and Budget and assigned OMB control number 2050-0066.)

§ 280.107 Recordkeeping.

(a) Owners or operators must maintain evidence of all financial assurance mechanisms used to demonstrate financial responsibility under this subpart for an underground storage tank until released from the requirements of this subpart under § 208.109. An owner or operator must maintain such evidence at the underground storage tank site or the owner's or operator's place of business. Records maintained off-site must be made available upon request of the implementing agency.

(b) An owner or operator must maintain the following types of evidence of financial responsibility:

(1) An owner or operator using an assurance mechanism specified in §§ 280.95 through 280.100 or § 280.102 must maintain a copy of the instrument worded as specified.

(2) An owner or operator using a financial test or guarantee must maintain a copy of the chief financial officer's letter based on year-end financial statements for the most recent completed financial reporting year. Such evidence must be on file no later than 120 days after the close of the financial reporting year.

(3) An owner or operator using a guarantee, surety bond, or letter of credit must maintain a copy of the signed standby trust fund agreement and copies of any amendments to the agreement.

(4) An owner or operator using an insurance policy or risk retention group coverage must maintain a copy of the signed insurance policy or risk retention group coverage policy, with the endorsement or certificate of insurance and any amendments to the agreements.

(5) An owner or operator covered by a state fund or other state assurance must maintain on file a copy of any evidence of coverage supplied by or required by the State under § 280.101(d).

(6) An owner or operator using an assurance mechanism specified in §§ 280.95 through 280.102 must maintain an updated copy of a certification of financial responsibility worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

CERTIFICATION OF FINANCIAL RESPONSIBILITY

[Owner or operator] hereby certifies that it is in compliance with the rquirements of Subpart H of 40 CFR Part 280.

The financial assurance mechanism[s] used to demonstrate financial responsiblity under Subpart H of 40 CFR Part 280 is [are] as follows:

[For each mechanism, list the type of mechanism, name of issuer, mechanism number (if applicable), amount of coverage, effective period of coverage and whether the mechanism covers "taking corrective action" and/or "compensating third parties for bodily injury and property damage caused by" either "sudden accidential releases" or "nonsudden accidential releases" or "accidental releases."]

[Signature of owner or operator]
[Name of owner or operator]
[Title]
[Date]

[Signature of witness or notary]
[Name of witness or notary]
[Date]

The owner or operator must update this certification whenever the financial assurance mechanism(s) used to demonstrate financial responsibility change(s).

(The information requirements in this section have been approved by the Office of Management and Budget and assigned OMB control number 2050-0066.)

§ 280.108 Drawing on financial assurance mechanisms.

(a) The Director of the implementing agency shall require the guarantor, surety, or institution issuing a letter of credit to place the amount of funds stipulated by the Director, up to the limit of funds provided by the financial assurance mechanism, into the standby trust if:

(1)(i) The owner or operator fails to establish alternate financial assurance within 60 days after receiving notice of cancellation of the guarantee, surety bond, letter of credit, or, as applicable, other financial assurance mechanism; and

(ii) The Director determines or suspects that a release from an underground storage tank covered by the mechanism has occurred and so notifies the owner or operator or the owner or operator has notified the Director pursuant to Subparts E or F of a release from an underground storage tank covered by the mechanism; or

(2) The conditions of paragraph (b)(1) or (b)(2)(i) or (ii) of this section are satisfied.

(b) The Director of the implementing agency may draw on a standby trust fund when:

(1) The Director makes a final determination that a release has occurred and immediate or long-term corrective action for the release is needed, and

the owner or operator, after appropriate notice and opportunity to comply, has not conducted corrrective action as required under 40 CFR Part 280, Subpart F; or

(2) The Director has received either:

(i) Certification from the owner or operator and the third-party liability claimant(s) and from attorneys representing the owner or operator and the third-party liability claimant(s) that a third-party liability claim should be paid. The certification must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

CERTIFICATION OF VALID CLAIM

The undersigned, as principals and as legal representatives of [insert owner or operator] and [insert name and address of third-party claimant], hereby certify that the claim of bodily injury [and/or] property damage caused by an accidental release arising from operating [owner's or operator's] underground storage tank should be paid in the amount of $[_____].

[Signatures]
Owner or Operator
Attorney for Owner or Operator
(Notary) Date
[Signature(s)]
Claimant(s)
Attorney(s) for Claimant(s)
(Notary) Date

or (ii) A valid final court order establishing a judgment against the owner or operator for bodily injury or property damage caused by an accidental release from an underground storage tank covered by financial assurance under this subpart and the Director determines that the owner or operator has not satisfied the judgment.

(c) If the Director of the implementing agency determines that the amount of corrective action costs and third-party liability claims eligible for payment under paragraph (b) of this section may exceed the balance of the standby trust fund and the obligation of the provider of financial assurance, the first priority for payment shall be corrective action costs necessary to protect human health and the environment. The Director shall pay third-party liability claims in the order in which the Director receives certifications under paragraph (b)(2)(i) of this section, and valid court orders under paragraph (b)(2)(ii) of this section.

§ 280.109 Release from the requirements.

An owner or operator is no longer required to maintain financial responsibility under this subpart for an underground storage tank after the tank has been properly closed or, if corrective action is required, after corrective action has been completed and the tank has been properly closed as required by 40 CFR Part 280, Subpart G.

§ 280.110 Bankruptcy or other incapacity of owner or operator or provider of financial assurance.

(a) Within 10 days after commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming an owner or operator as debtor, the owner or operator must notify the Director of the implementing agency by certified mail of such commencement and submit the appropriate forms listed in § 280.107(b) documenting current financial responsibility.

(b) Within 10 days after commencement of a voluntary or involuntary proceeding under Title 11 (Bankruptcy), U.S. Code, naming a guarantor providing financial assurance as debtor, such guarantor must notify the owner or operator by certified mail of such commencement as required under the terms of the guarantee specified in § 280.96.

(c) An owner or operator who obtains financial assurance by a mechanism other than the financial test o self-insurance will be deemed to b without the required financial assurance in the event of a bankruptcy o incapacity of its provider of financia assurance, or a suspension or revocation of the authority of the provide of financial assurance to issue a guarantee, insurance policy, risk retention group coverage policy, surety bond letter of credit, or state-required mechanism. The owner or operato must obtain alternate financial assurance as specified in this subpart within 30 days after receiving notice of such an event. If the owner or operato does not obtain alternate coverag within 30 days after such notification he must notify the Director of the implementing agency.

(d) Within 30 days after receipt of notification that a state fund or other state assurance has become incapable of paying for assured corrective action or third-party compensation costs, the owner or operator must obtain alternate financial assurance.

§ 280.111 Replenishment of guarantees, letters of credit, or surety bonds.

(a) If at any time after a standby trust is funded upon the instruction of the Director of the implementing agency with funds drawn from a guarantee, letter of credit, or surety bond, and the amount in the standby trust is reduced below the full amount of coverage required, the owner or operator shall by the anniversary date of the financial mechanism from which the funds were drawn:

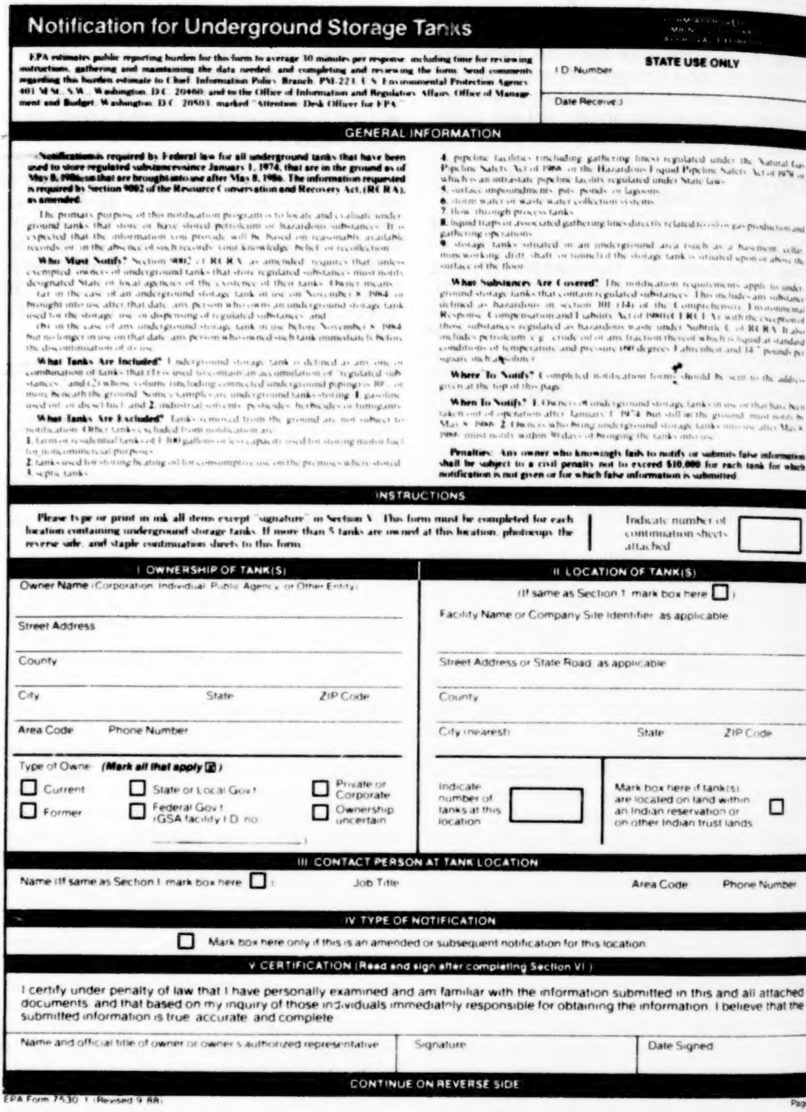
(1) Replenish the value of financial assurance to equal the full amount of coverage required, *or*

(2) Acquire another financial assurance mechanism for the amount by which funds in the standby trust have been reduced.

(b) For purposes of this section, the full amount of coverage required is the amount of coverage to be provided by § 280.93 of this subpart. If a combination of mechanisms was used to provide the assurance funds which were drawn upon, replenishment shall occur by the earliest anniversary date among the mechanisms.

§ 280.112 Suspension of enforcement. [Reserved]

APPENDIX I TO PART 280—NOTIFICATION FOR UNDERGROUND STORAGE TANKS (FORM



Notification for Underground Storage Tanks

[illegible]

EPA estimates public reporting burden for this form to average 30 minutes per response, including time for reviewing instructions, gathering and maintaining the data needed, and completing and reviewing the form. Send comments regarding this burden estimate to Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., S.W., Washington, D.C. 20460, and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503, marked "Attention: Desk Officer for EPA."

STATE USE ONLY

I.D. Number

Date Received

GENERAL INFORMATION

Notification is required by Federal law for all underground tanks that have been used to store regulated substances since January 1, 1974, that are in the ground as of May 8, 1986, or that are brought into use after May 8, 1986. The information requested is required by Section 9002 of the Resource Conservation and Recovery Act, (RCRA), as amended.

The primary purpose of this notification program is to locate and evaluate underground tanks that store or have stored petroleum or hazardous substances. It is expected that the information you provide will be based on reasonably available records, or, in the absence of such records, your knowledge, belief, or recollection.

Who Must Notify? Section 9002 of RCRA, as amended, requires that, unless exempted, owners of underground tanks that store regulated substances must notify designated State or local agencies of the existence of their tanks. Owner means—

(a) in the case of an underground storage tank in use on November 8, 1984, or brought into use after that date, any person who owns an underground storage tank used for the storage, use, or dispensing of regulated substances, and

(b) in the case of any underground storage tank in use before November 8, 1984, but no longer in use on that date, any person who owned such tank immediately before the discontinuation of its use.

What Tanks Are Included? Underground storage tank is defined as any one or combination of tanks that (1) is used to contain an accumulation of "regulated substances," and (2) whose volume (including connected underground piping) is 10% or more beneath the ground. Some examples are underground tanks storing: **1.** gasoline, used oil, or diesel fuel, and **2.** industrial solvents, pesticides, herbicides or fumigants.

What Tanks Are Excluded? Tanks removed from the ground are not subject to notification. Other tanks excluded from notification are:

1. farm or residential tanks of 1,100 gallons or less capacity used for storing motor fuel for noncommercial purposes;
2. tanks used for storing heating oil for consumptive use on the premises where stored;
3. septic tanks;
4. pipeline facilities (including gathering lines) regulated under the Natural Gas Pipeline Safety Act of 1968, or the Hazardous Liquid Pipeline Safety Act of 1979, or which is an intrastate pipeline facility regulated under State laws;
5. surface impoundments, pits, ponds, or lagoons;
6. storm water or waste water collection systems;
7. flow-through process tanks;
8. liquid traps or associated gathering lines directly related to oil or gas production and gathering operations;
9. storage tanks situated in an underground area (such as a basement, cellar, mineworking, drift, shaft, or tunnel) if the storage tank is situated upon or above the surface of the floor.

What Substances Are Covered? The notification requirements apply to underground storage tanks that contain regulated substances. This includes any substance defined as hazardous in section 101 (14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), with the exception of those substances regulated as hazardous waste under Subtitle C of RCRA. It also includes petroleum, e.g., crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute).

Where To Notify? Completed notification forms should be sent to the address given at the top of this page.

When To Notify? **1.** Owners of underground storage tanks in use or that have been taken out of operation after January 1, 1974, but still in the ground, must notify by May 8, 1986. **2.** Owners who bring underground storage tanks into use after May 8, 1986, must notify within 30 days of bringing the tanks into use.

Penalties: Any owner who knowingly fails to notify or submits false information shall be subject to a civil penalty not to exceed $10,000 for each tank for which notification is not given or for which false information is submitted.

INSTRUCTIONS

Please type or print in ink all items except "signature" in Section V. This form must be completed for each location containing underground storage tanks. If more than 5 tanks are owned at this location, photocopy the reverse side, and staple continuation sheets to this form.

Indicate number of continuation sheets attached ☐

I. OWNERSHIP OF TANK(S)

Owner Name (Corporation, Individual, Public Agency, or Other Entity)

Street Address

County

City State ZIP Code

Area Code Phone Number

Type of Owner (*Mark all that apply* ☒)

☐ Current ☐ State or Local Gov't ☐ Private or Corporate

☐ Former ☐ Federal Gov't (GSA facility I.D. no. ________) ☐ Ownership uncertain

II. LOCATION OF TANK(S)

(If same as Section 1, mark box here ☐)

Facility Name or Company Site Identifier, as applicable

Street Address or State Road, as applicable

County

City (nearest) State ZIP Code

Indicate number of tanks at this location ☐

Mark box here if tank(s) are located on land within an Indian reservation or on other Indian trust lands ☐

III. CONTACT PERSON AT TANK LOCATION

Name (If same as Section I, mark box here ☐) Job Title Area Code Phone Number

IV. TYPE OF NOTIFICATION

☐ Mark box here only if this is an amended or subsequent notification for this location

V. CERTIFICATION (Read and sign after completing Section VI.)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Name and official title of owner or owner's authorized representative	Signature	Date Signed

CONTINUE ON REVERSE SIDE

EPA Form 7530-1 (Revised 9-88) Pag

Owner Name (from Section I) ____________ **Location (from Section II)** ____________ **Page No.** ____ **of** ____ **Pages**

VI. DESCRIPTION OF UNDERGROUND STORAGE TANKS *(Complete for each tank at this location)*

Tank Identification No. (e.g., ABC-123), or Arbitrarily Assigned Sequential Number (e.g., 1,2,3...)	**Tank No.**	**Tank No.**	**Tank No.**	**Tank No.**	**Tank No.**
1. Status of Tank *(Mark all that apply ☒)*					
Currently in Use	☐	☐	☐	☐	☐
Temporarily Out of Use	☐	☐	☐	☐	☐
Permanently Out of Use	☐	☐	☐	☐	☐
Brought into Use after 5/8/86	☐	☐	☐	☐	☐
2. Estimated Age (Years)					
3. Estimated Total Capacity (Gallons)					
4. Material of Construction *(Mark one ☒)*					
Steel	☐	☐	☐	☐	☐
Concrete	☐	☐	☐	☐	☐
Fiberglass Reinforced Plastic	☐	☐	☐	☐	☐
Unknown	☐	☐	☐	☐	☐
Other, Please Specify	______	______	______	______	______
5. Internal Protection *(Mark all that apply ☒)*					
Cathodic Protection	☐	☐	☐	☐	☐
Interior Lining (e.g., epoxy resins)	☐	☐	☐	☐	☐
None	☐	☐	☐	☐	☐
Unknown	☐	☐	☐	☐	☐
Other, Please Specify	______	______	______	______	______
6. External Protection *(Mark all that apply ☒)*					
Cathodic Protection	☐	☐	☐	☐	☐
Painted (e.g., asphaltic)	☐	☐	☐	☐	☐
Fiberglass Reinforced Plastic Coated	☐	☐	☐	☐	☐
None	☐	☐	☐	☐	☐
Unknown	☐	☐	☐	☐	☐
Other, Please Specify	______	______	______	______	______
7. Piping *(Mark all that apply ☒)*					
Bare Steel	☐	☐	☐	☐	☐
Galvanized Steel	☐	☐	☐	☐	☐
Fiberglass Reinforced Plastic	☐	☐	☐	☐	☐
Cathodically Protected	☐	☐	☐	☐	☐
Unknown	☐	☐	☐	☐	☐
Other, Please Specify	______	______	______	______	______
8. Substance Currently or Last Stored in Greatest Quantity by Volume *(Mark all that apply ☒)*					
a. Empty	☐	☐	☐	☐	☐
b. Petroleum					
Diesel	☐	☐	☐	☐	☐
Kerosene	☐	☐	☐	☐	☐
Gasoline (including alcohol blends)	☐	☐	☐	☐	☐
Used Oil	☐	☐	☐	☐	☐
Other, Please Specify	______	______	______	______	______
c. Hazardous Substance	☐	☐	☐	☐	☐
Please Indicate Name of Principal CERCLA Substance	______	______	______	______	______
OR					
Chemical Abstract Service (CAS) No.	______	______	______	______	______
Mark box ☒ if tank stores a mixture of substances	☐	☐	☐	☐	☐
d. Unknown	☐	☐	☐	☐	☐
9. Additional Information (for tanks permanently taken out of service)					
a. Estimated date last used (mo/yr)	___/___	___/___	___/___	___/___	___/___
b. Estimated quantity of substance remaining (gal.)	______	______	______	______	______
c. Mark box ☒ if tank was filled with inert material (e.g., sand, concrete)	☐	☐	☐	☐	☐

EPA Form 7530-1 (Revised 9-88) Reverse

Page 2

Owner Name (from Section I) ________ Location (from Section II) ________ Page No ____ of ____ Pages

VII. CERTIFICATION OF COMPLIANCE (COMPLETE FOR ALL NEW TANKS AT THIS LOCATION)

10 **Installation** (mark all that apply)

☐ The installer has been certified by the tank and piping manufacturers

☐ The installer has been certified or licensed by the implementing agency

☐ The installation has been inspected and certified by a registered professional engineer

☐ The installation has been inspected and approved by the implementing agency

☐ All work listed on the manufacturer's installation checklists has been completed

☐ Another method was used as allowed by the implementing agency. Please specify

____

11 Release Detection (mark all that apply)

☐ Manual tank gauging

☐ Tank tightness testing with inventory controls

☐ Automatic tank gauging

☐ Vapor monitoring

☐ Ground-water monitoring

☐ Interstitial monitoring within a secondary barrier

☐ Interstitial monitoring within secondary containment

☐ Automatic line leak detectors

☐ Line tightness testing

☐ Another method allowed by the implementing agency. Please specify

____

12 Corrosion Protection (if applicable)

☐ As specified for coated steel tanks with cathodic protection

☐ As specified for coated steel piping with cathodic protection

☐ Another method allowed by the implementing agency. Please specify

____

13 I have financial responsibility in accordance with Subpart I. Please specify

Method ____

Insurer ____

Policy Number ____

14 OATH: I certify that the information concerning installation provided in Item 10 is true to the best of my belief and knowledge

Installer ____________________ ____________________

Name Date

____

Position

____

Company

EPA Form 7530-1 (9-88) Page 3

Appendix II to Part 280—List of Agencies Designated To Receive Notifications

Alabama (EPA Form), Alabama Department of Environmental Management, Ground Water Section/Water Division, 1751 Congressman W.L. Dickinson Drive, Montgomery, Alabama 36130, 205/271-7823

Alaska (EPA Form), Department of Environmental Conservation, Box 0, Juneau, Alaska 99811-1800, 970/465-2653

American Samoa (EPA Form), Executive Secretary, Environmental Quality Commission, Office of the Governor, American Samoan Government, Pago Pago, American Samoa 96799; Attention: UST Notification

Arizona (EPA Form), Attention: UST Coordinator, Arizona Department of Environmental Quality, Environmental Health Services, 2005 N. Central, Phoenix, Arizona 85004

Arkansas (EPA Form), Arkansas Department of Pollution Control and Ecology, P.O. Box 9583, Little Rock, Arkansas 72219, 501/562-7444

California (State Form), Executive Director, State Water Resources Control Board, P.O. Box 100, Sacramento, California 95801, 916/445-1533

Colorado (EPA Form), Section Chief, Colorado Department of Health, Waste Management Division, Underground Tank Program, 4210 East 11th Avenue, Denver, Colorado 80220, 303/320-8333

Connecticut (State Form), Hazardous Materials Management Unit, Department of Environmental Protection, State Office Building, 165 Capitol Avenue, Hartford, Connecticut 06106

Delaware (State Form), Division of Air and Waste Management, Department of Natural Resources and Environmental Control, P.O. Box 1401, 89 Kings Highway, Dover, Delaware 19903, 302/726-5409

District of Columbia (EPA Form), Attention: UST Notification Form, Department of Consumer and Regulatory Affairs, Pesticides and Hazardous Waste Management Branch, Room 114, 5010 Overlook Avenue SW., Washington, DC 20032

Florida (State Form), Florida Department of Environmental Regulation, Solid Waste Section, Twin Towers Office Building, 2600 Blair Stone Road, Tallahassee, Florida 32399, 904/487-4398

Georgia (EPA Form), Georgia Department of Natural Resources, Environmental Protection Division, Underground Storage Tank Program, 3420 Norman Berry Drive, 7th Floor, Hapeville, Georgia 30354, 404/656-7404

Guam (State Form), Administrator, Guam Environmental Protection Agency, P.O. Box 2999, Agana, Guam 96910, Overseas Operator (Commercial call 646-8863)

Hawaii (EPA Form), Administrator, Hazardous Waste Program, 645 Halekauwila Street, Honolulu, Hawaii 96813, 808/548-2270

Idaho (EPA Form), Underground Storage Tank Coordinator, Water Quality Bureau, Division of Environmental Quality, Idaho Department of Health and Welfare, 450 W. State Street, Boise, Idaho 83720, 208/334-4251

Illinois (EPA Form), Underground Storage Tank Coordinator, Division of Fire Prevention, Office of State Fire Marshal, 3150 Executive Park Drive, Springfield, Illinois 62703-4599

Indiana (EPA Form), Underground Storage Tank Program, Office of Environmental Response, Indiana Department of Environmental Management, 105 South Meridian Street, Indianapolis, Indiana 46225

Iowa (State Form), UST Coordinator, Iowa Department of Natural Resources, Henry A. Wallace Building, 900 East Grand, Des Moines, Iowa 50219, 512/281-8135

Kansas (EPA Form), Kansas Department of Health and Environment, Forbes Field, Building 740, Topeka, Kansas 66620, 913/296-1594

Kentucky (State Form), Department of Environmental Protection, Hazardous Waste Branch, Fort Boone Plaza, Building #2, 18 Reilly Road, Frankfort, Kentucky 40601, 501/564-6716

Louisiana (State Form), Secretary, Louisiana Department of Environmental Quality, P.O. Box 44066, Baton Rouge, Louisiana 70804, 501/342-1265

Maine (State Form), Attention: Underground Tanks Program, Bureau of Oil and Hazardous Material Control, Department of Environmental Protection, State House—Station 17, Augusta, Maine 04333

Maryland (EPA Form), Science and Health Advisory Group, Office of Environmental Programs, 201 West Preston Street, Baltimore, Maryland 21201

Massachusetts (EPA Form), UST Registry, Department of Public Safety, 1010 Commonwealth Avenue, Boston, Massachusetts 02215, 617/566-4500

Michigan (EPA Form), Michigan Department of State Police, Fire Marshal Division, General Office Building, 7150 Harris Drive, Lansing, Michigan 48913

Minnesota (State Form), Underground Storage Tank Program, Division of Solid and Hazardous Wastes, Minnesota Pollution Control Agency, 520 West Lafayette Road, St. Paul, Minnesota 55155

Mississippi (State Form), Department of Natural Resources, Bureau of Pollution Control, Underground Storage Tank Section, P.O. Box 10385, Jackson, Mississippi 39209, 601/961-5171

Missouri (EPA Form), UST Coordinator, Missouri Department of Natural Resources, P.O. Box 176, Jefferson City, Missouri 65102, 314/751-7428

Montana (EPA Form), Solid and Hazardous Waste Bureau, Department of Health and Environmental Science, Cogswell Bldg., Room B-201, Helena, Montana 59620

Nebraska (EPA Form), Nebraska State Fire Marshal, P.O. Box 94677, Lincoln, Nebraska 68509-4677, 402/471-9465

Nevada (EPA Form), Attention: UST Coordinator, Division of Environmental Protection, Department of Conservation and Natural Resources, Capitol Complex 201 S. Fall Street, Carson City, Nevada 89710, 800/992-0900, Ext. 4670, 702/885-4670

New Hampshire (EPA Form), NH Dept. of Environmental Services, Water Supply and Pollution Control Division, Hazen Drive, P.O. Box 95, Concord, New Hampshire 03301, Attention: UST Registration

New Jersey (State Form), Underground Storage Tank Coordinator, Department of Environmental Protection, Division of Water Resources (CN-029), Trenton, New Jersey 08625, 609/292-0424

New Mexico (EPA Form), New Mexico Environmental Improvement Division, Groundwater/Hazardous Waste Bureau, P.O. Box 968, Santa Fe, New Mexico 37504, 505/827-2933

New York (EPA Form), Bulk Storage Section, Division of Water, Department of Environmental Conservation, 50 Wolf Road, Room 326, Albany, New York 12233-0001, 518/457-4351

North Carolina (EPA Form), Division of Environmental Management, Ground-Water Operations Branch, Department of Natural Resources and Community Development, P.O. Box 27687, Raleigh, North Carolina 27611, 919/733-3221

North Dakota (State Form), Division of Hazardous Management and Special Studies, North Dakota Department of Health, Box 5520, Bismarck, North Dakota 58502-5520

Northern Mariana Islands (EPA Form), Chief, Division of Environmental Quality, P.O. Box 1304, Commonwealth of Northern Mariana Islands, Saipan, CM 96950, Cable Address: Gov. NMI Saipan, Overseas Operator: 6984

Ohio (State Form), State Fire Marshal's Office, Department of Commerce, 8895 E. Main Street, Reynoldsburg, Ohio 43068, State Hotline: 800/282-1927

Oklahoma (EPA Form), Underground Storage Tank Program, Oklahoma Corporation Comm., Jim Thorpe Building, Oklahoma City, Oklahoma 73105

Oregon (State Form), Underground Storage Tank Program, Hazardous and Solid Waste Division, Department of Environmental Quality, 811 S.W. Sixth Avenue, Portland, Oregon 98204, 503/229-5788

Pennsylvania (EPA Form), PA Department of Environmental Resources, Bureau of Water Quality Management, Ground Water Unit, 9th Floor Fulton Building, P.O. Box 2063, Harrisburg, Pennsylvania 17120

Puerto Rico (EPA Form), Director, Water Quality Control Area, Environmental Quality Board, Commonwealth of Puerto Rico, Santurce, Puerto Rico, 809/725-0717

Rhode Island (EPA Form), UST Registration, Department of Environmental Management, 83 Park Street, Providence, Rhode Island 02903, 401/277-2234

South Carolina (State Form), Ground-Water Protection Division, South Carolina Department of Health and Environmental Control, 2600 Bull Street, Columbia, South Carolina 29201, 803/758-5213

South Dakota (EPA Form), Office of Water Quality, Department of Water and Natural Resources, Joe Foss Building, Pierre, South Dakota 57501.

Tennessee (EPA Form), Tennessee Department of Health and Environment, Division of Superfund Underground Storage Tank Section, 150 Ninth Avenue, North, Nashville, Tennessee 37219-5404, 615/741-0690

Texas (EPA Form), Underground Storage Tank Program, Texas Water Commission, P.O. Box 13087, Austin, Texas 78711

Utah (EPA Form), Division of Enviromental Health, P.O. Box 45500, Salt Lake City, Utah 84145-0500

Vermont (State Form), Underground Storage Tank Program, Vermont AEC/Waste Management Division, State Office Building, Montpelier, Vermont 05602, 802/828-3395

Virginia (EPA Form), Virginia Water Control Board, P.O. Box 11143, Richmond, Virginia 23230-1143, 804/257-6685

Virgin Islands (EPA Form), 205(J) Coordinator, Division of Natural Resources Management, 14 F Building 111, Watergut Homes, Christianstead, St. Croix, Virgin Islands 00820

Washington (State Form), Underground Storage Tank Notification, Solid and Hazardous Waste Program, Department of Ecology, M/S PV-11, Olympia, Washington 98504-8711, 206/459-6316

West Virginia (EPA Form), Attention: UST Notification, Solid and Hazardous Waste, Ground Water Branch, West Virginia Department of Natural Resources, 1201 Greenbriar Street, Charleston, West Virginia 25311

Wisconsin (State Form), Bureau of Petroleum Inspection, P.O. Box 7969, Madison, Wisconsin 53707, 608/266-7605

Wyoming (EPA Form), Water Quality Division, Department of Environmental Quality, Herschler Building, 4th Floor West, 122 West 25th Street, Cheyenne, Wyoming 82002, 307/777-7781.

APPENDIX III TO PART 280—STATEMENT FOR SHIPPING TICKETS AND INVOICES

NOTE.—A Federal law (the Resource Conservation and Recovery Act (RCRA), as amended (Pub. L. 98-616)) requires owners of certain underground storage tanks to notify designated State or local agencies by May 8, 1986, of the existence of their tanks. Notifications for tanks brought into use after May 8, 1986, must be made within 30 days. Consult EPA's regulations, issued on November 8, 1985 (40 CFR Part 280) to determine if you are affected by this law.

PART 281—APPROVAL OF STATE UNDERGROUND STORAGE TANK PROGRAMS

Subpart A—Purpose, General Requirements and Scope

Sec.

281.10 Purpose.
281.11 General requirements.
281.12 Scope and definitions.

Subpart B—Components of a Program Application

281.20 Program application.
281.21 Description of state program.
281.22 Procedures for adequate enforcement.
281.23 Schedule for interim approval.
281.24 Memorandum of agreement.
281.25 Attorney General's statement.

Subpart C—Criteria for No Less Stringent

281.30 New UST system design, construction, installation, and notification.
281.31 Upgrading existing UST systems.
281.32 General operating requirements.
281.33 Release detection.
281.34 Release reporting, investigation, and confirmation.
281.35 Release response and corrective action.
281.36 Out-of-service UST systems and closure.
281.37 Financial responsibility for UST systems containing petroleum.
281.38 Financial responsibility for USTs containing hazardous substances. [Reserved]

Subpart D—Adequate Enforcement of Compliance

281.40 Requirements for compliance monitoring program and authority.
281.41 Requirements for enforcement authority.

Sec.

281.42 Requirements for public participation.
281.43 Sharing of information.

Subpart E—Approval Procedures

281.50 Approval procedures for state programs.
281.51 Amendment required at end of interim period.
281.52 Revision of approved state programs.

Subpart F—Withdrawal of Approval of State Programs

281.60 Criteria for withdrawal of approval of state programs.
281.61 Procedures for withdrawal of approval of state programs.

AUTHORITY: Sections 2002, 9004, 9005, 9006 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 U.S.C. 6912, 6991 (c), (d), (e)).

SOURCE: 53 FR 37241, Sep. 23, 1988, unless otherwise noted.

Subpart A—Purpose, General Requirements and Scope

§ 281.10 Purpose.

(a) This subpart specifies the requirements that state programs must meet for approval by the Administrator under section 9004 of RCRA, and the procedures EPA will follow in approving, revising and withdrawing approval of state programs.

(b) State submissions for program approval must be in accordance with the procedures set out in this part.

(c) A state may apply for approval under this subpart at any time after the promulgation of release detection, prevention, and correction regulations under section 9003 of RCRA.

(d) Any state program approved by the Administrator under this part shall at all times be conducted in accordance with the requirements of this part.

§ 281.11 General requirements.

(a) *State program elements.* The following substantive elements of a state program must be addressed in a state application for approval:

(1) Requirements for all existing and new underground storage tanks:

(i) New UST systems (design, construction, installation, and notification);

(ii) Upgrading of existing UST systems;

(iii) General operating requirements;

(iv) Release detection;

(v) Release reporting, investigation, and confirmation;

(vi) Out-of-service USTs and closure;

(vii) Release response and corrective action; and

(viii) Financial responsibility for UST systems containing petroleum.

(2) Provisions for adequate enforcement of compliance with the above program elements.

(b) *Final approval.* The state must demonstrate that its requirements under each state program element for existing and new UST systems are no less stringent than the corresponding federal requirements as set forth in Subpart C of this part, except as provided in paragraph (c) of this section. The state must also demonstrate that it has a program that provides adequate enforcement of compliance with these requirements.

(c) *Interim approval.* (1) The Administrator may approve state programs with requirements less stringent than the federal requirements for a period of 1 to 3 years from September 23, 1988. Such interim approval may be granted only if state regulatory and/or legislative change is required in order for the state program to be no less stringent than the federal requirements and standards under Part 280 for one or more of the following program elements: Release detection at existing UST systems; release reporting and investigation; and out-of-service or closed UST systems.

(2) A state program may receive interim approval if it:

(i) Has requirements for three elements:

(A) Release Detection;

(B) Release Reporting, Investigation, and Confirmation; and

(C) Out-of-Service UST Systems and Closure; and

(ii) Has requirements that are no less stringent than the corresponding federal requirements for five elements:

(A) New UST System Design, Construction, Installation and Notification;

(B) Upgrading Existing UST Systems;

(C) General Operating Requirements;

(D) Release Response and Corrective Action; and

(E) Financial Responsibility for UST systems containing petroleum; and

(iii) Provides for adequate enforcement of compliance with these requirements.

(3) A state with a program that has received interim approval must receive final approval of an amended program containing program elements that are no less stringent than the corresponding federal program elements under Subpart C in accordance with the following schedule:

(i) If only state regulatory action is required, the state must submit an amended program to EPA for approval before September 23, 1989.

(ii) If only state legislative action is required, the state must submit an amended program to EPA for approval before September 23, 1990.

(iii) If both state legislative and regulatory action are required, the state must submit an amended program to EPA for approval before September 23, 1991.

(d) States with programs approved under this part are authorized to administer the state program in lieu of the federal program and will have primary enforcement responsibility with respect to the requirements of the approved program. EPA retains authority to take enforcement action in approved states as necessary and will notify the designated lead state agency of any such intended action.

§ 281.12 Scope and definitions.

(a) *Scope.* (1) The Administrator may approve either partial or complete state programs. A "partial" state program regulates either solely UST systems containing petroleum or solely UST systems containing hazardous substances. If a "partial" state program is approved, EPA will administer the remaining part of the program. A "complete" state program regulates both petroleum and hazardous substance tanks.

(2) EPA will administer the UST program on Indian lands, except where Congress has clearly expressed an intention to grant a state authority to regulate petroleum and hazardous substance USTs on Indian lands. In either case, this decision will not impair a state's ability to obtain program approval for petroleum and/or hazardous substances on non-Indian lands in accordance with this part.

(3) Nothing in this subpart precludes a state from:

(i) Adopting or enforcing requirements that are more stringent or more extensive than those required under this part; or

(ii) Operating a program with a greater scope of coverage than that required under this part. Where an approved state program has a greater scope of coverage than required by federal law, the additional coverage is not part of the federally-approved program.

(b) *Definitions.* (1) The definitions in Part 280 apply to all subparts of this part.

(2) For the purpose of this part, the term "interim approval" means the approval received by a state program that meets the requirements in § 281.11(c) (1) and (2) for the time period defined in § 281.11(c)(3).

(3) For the purposes of this part the term "final approval" means the approval received by a state program that meets the requirements in § 281.11(b).

Subpart B—Components of a Program Application

§ 281.20 Program application.

Any state that seeks to administer a program under this part must submit an application containing the following parts:

(a) A transmittal letter from the Governor of the state requesting program approval;

(b) A description in accordance with § 281.21 of the state program and operating procedures;

(c) A demonstration of the state's procedures to ensure adequate enforcement;

(d) A schedule for obtaining needed authorities under interim approval, where applicable;

(e) A Memorandum of Agreement outlining roles and responsibilities of EPA and the implementing agency;

(f) An Attorney General's statement in accordance with § 281.25 certifying to applicable state authorities; and

(g) Copies of all applicable state statutes and regulations.

NOTE: EPA has designed an optional application form that is available for use by state applicants.

§ 281.21 Description of state program.

A state seeking to administer a program under this part must submit a description of the program it proposes to administer under state law in lieu of the federal program. The description of a state's existing or planned program must include:

(a) The scope of the state program:

(1) Whether the state program regulates UST systems containing petroleum or hazardous substances, or both;

(2) Whether the state is applying for interim or final approval;

(3) Whether the state program is more stringent or broader in scope than the federal program, and in what ways; and

(4) Whether the state has any existing authority over Indian lands or has existing agreements with Indian tribes relevant to the regulation of underground storage tanks.

(b) The organization and structure of the state and local agencies with responsibility for administering the program. The jurisdiction and responsibilities of all state and local implementing agencies must be delineated, appropriate procedures for coordination set forth, and one state agency designated as a "lead agency" to facilitate communications between EPA and the state.

(c) Staff resources to carry out and enforce the required state program elements, both existing and planned, including the number of employees, agency where employees are located, general duties of the employees, and current limits or restrictions on hiring or utilization of staff.

(d) An existing state funding mechanism to meet the estimated costs of administering and enforcing the required state program elements, and any restrictions or limitations upon this funding.

§ 281.22 Procedures for adequate enforcement.

A state must submit a description of its compliance monitoring and enforcement procedures, including related state administrative or judicial review procedures.

§ 281.23 Schedule for interim approval.

For a state program that must modify its statutory or regulatory requirements for release detection, release reporting and investigation, and out-of-service or closed UST systems in order to be no less stringent than the federal requirements, the plan must include a schedule for making such changes and for submitting an amendment to the state application in accordance with § 281.51.

§ 281.24 Memorandum of agreement.

EPA and the approved state will negotiate a Memorandum of Agreement (MOA) containing proposed areas of coordination and shared responsibilities between the state and EPA and separate EPA and state roles and responsibilities in areas including, but not limited to: Implementation of partial state programs; enforcement; compliance monitoring; EPA oversight; and sharing and reporting of information. At the time of approval, the MOA must be signed by the Regional Administrator and the appropriate official of the state lead agency.

§ 281.25 Attorney General's statement.

(a) A state must submit a written demonstration from the Attorney General that the laws and regulations of the state provide adequate authority to carry out the program described under § 281.21 and to meet other requirements of this part. This statement may be signed by independent legal counsel for the state rather than the Attorney General, provided that such counsel has full authority to independently represent the state Agency in court on all matters pertaining to the state program. This statement must include citations to the specific statutes, administrative regulations, and where appropriate, judicial decisions that demonstrate adequate authority to regulate and enforce requirements for UST systems. State statutes and regulations cited by the state Attorney General must be fully effective when the program is approved.

(b) If a state currently has authority over underground storage tank activities on Indian Lands, the statement must contain an appropriate analysis of the state's authority.

NOTE: The reporting requirements under this section have been approved by the Office of Management and Budget (OMB) and have been assigned OMB Control Number 2050-0067.

Subpart C—Criteria for No-Less-Stringent

§ 281.30 New UST system design, construction, installation, and notification.

In order to be considered no less stringent than the corresponding federal requirements for new UST system design, construction, installation, and notification, the state must have requirements that ensure all new underground storage tanks, and the attached piping in contact with the ground and used to convey the regulated substance stored in the tank, conform to the following:

(a) Be designed, constructed, and installed in a manner that will prevent releases for their operating life due to manufacturing defects, structural failure, or corrosion.

NOTE: Codes of practice developed by nationally-recognized organizations and national independent testing laboratories may be used to demonstrate that the state program requirements are no less stringent in this area.

(b) Be provided with equipment to prevent spills and tank overfills when new tanks are installed or existing tanks are upgraded, unless the tank does not receive more than 25 gallons at one time.

(c) All UST system owners and operators must notify the implementing state agency of the existence of any w UST system using a form desig- ted by the state agency.

81.31 Upgrading existing UST systems.

In order to be considered no less ringent than the corresponding fed- al upgrading requirements, the state ust have requirements that ensure isting UST systems will be replaced upgraded before December 22, 1998, prevent releases for their operating e due to corrosion, and spills or over- lls.

281.32 General operating requirements.

In order to be considered no less ringent than the corresponding fed- ral general operating requirements, he state must have requirements that nsure all new and existing UST sys- ems conform to the following:

(a) Prevent spills and overfills by en- uring that the space in the tank is ufficient to receive the volume to be ransferred and that the transfer oper- tion is monitored constantly;

(b) Where equipped with cathodic rotection, be operated and main- ained by a person with sufficient raining and experience in preventing orrosion, and in a manner that en- ures that no releases occur during the perating life of the UST system;

NOTE: Codes of practice developed by na- ionally-recognized organizations and na- ional independent testing laboratories may e used to demonstrate the state program equirements are no less stringent.

(c) Be made of or lined with materi- ls that are compatible with the sub- tance stored;

(d) At the time of upgrade or repair, be structurally sound and upgraded or repaired in a manner that will prevent releases due to structural failure or corrosion during their operating lives;

(e) Have records of monitoring, testing, repairs, and closure maintained that are sufficient to demonstrate recent facility compliance status, except that records demonstrating compliance with repair and upgrading requirements must be maintained for the remaining operating life of the facility. These records must be made readily available when requested by the implementing agency.

§ 281.33 Release detection.

In order to be considered no less stringent than the corresponding federal requirements for release detection, the state must have requirements that at a minimum ensure all UST systems are provided with release detection that conforms to the following:

(a) *General methods.* Release detection requirements for owners and operators must consist of a method, or combination of methods, that is:

(1) Capable of detecting a release of the regulated substance from any portion of the UST system that routinely contains regulated substances—as effectively as any of the methods allowed under the federal technical standards—for as long as the UST system is in operation. In comparing methods, the implementing agency shall consider the size of release that the method can detect and the speed and reliability with which the release can be detected.

(2) Designed, installed, calibrated, operated and maintained so that releases will be detected in accordance with the capabilities of the method.

(b) *Phase-in of requirements.* Release detection requirements must, at a minimum, be scheduled to be applied at all UST systems:

(1) Immediately when a new UST system is installed;

(2) On an orderly schedule that completes a phase-in of release detection at all existing UST systems (or their closure) before December 21, 1993, except that release detection for the piping attached to any existing UST that conveys a regulated substance under greater than atmospheric pressure must be phased-in before December 22, 1990.

(c) *Requirements for petroleum tanks.* All petroleum tanks must be sampled, tested, or checked for releases at least monthly, except that:

(1) New or upgraded tanks (that is, tanks and piping protected from releases due to corrosion and equipped with both spill and overfill prevention devices) may temporarily use monthly inventory control (or its equivalent) in combination with tightness testing (or its equivalent) conducted every 5 years for the first 10 years after the tank is

installed or upgraded or until December 22, 1998, whichever is later; and

(2) Existing tanks unprotected from releases due to corrosion or without spill and overfill prevention devices may use monthly inventory control (or its equivalent) in combination with annual tightness testing (or its equivalent) until December 22, 1998.

(d) *Requirements for petroleum piping.* All underground piping attached to the tank that routinely conveys petroleum must conform to the following:

(1) If the petroleum is conveyed under greater than atmospheric pressure:

(i) The piping must be equipped with release detection that detects a release within an hour by restricting or shutting off flow or sounding an alarm; and

(ii) The piping must have monthly monitoring applied or annual tightness tests conducted.

(2) If suction lines are used:

(i) Tightness tests must be conducted at least once every 3 years, unless a monthly method of detection is applied to this piping; or

(ii) The piping is designed to allow the contents of the pipe to drain back into the storage tank if the suction is released and is also designed to allow an inspector to immediately determine the integrity of the piping system.

(e) *Requirements for hazardous substance UST systems.* All UST systems storing hazardous substances must meet the following:

(1) All existing hazardous substance UST systems must comply with all the requirements for petroleum UST systems in paragraphs (c) and (d) of this section and after December 22, 1998, they must comply with the following paragraph (e)(2) of this section.

(2) All new hazardous substance UST systems must use interstitial monitoring within secondary containment of the tanks and the attached underground piping that conveys the regulated substance stored in the tank, unless the owner and operator can demonstrate to the state (or the state otherwise determines) that another method will detect a release of the regulated substance as effectively as other methods allowed under the state program for petroleum UST systems and that effective corrective action technology is available for the hazardous substance being stored that can be used to protect human health and the environment.

§ 281.34 Release reporting, investigation, and confirmation.

In order to be considered no less stringent than the corresponding federal requirements for release reporting, investigation, and confirmation, the state must have requirements that ensure all owners and operators conform with the following:

(a) Promptly investigate all suspected releases, including:

(1) When unusual operating conditions, release detection signals and environmental conditions at the site suggest a release of regulated substances may have occurred; and

(2) When required by the implementing agency to determine the source of a release having an impact in the surrounding area; and

(b) Promptly report all confirmed underground releases and any spills and overfills that are not contained and cleaned up.

(c) Ensure that all owners and operators contain and clean up unreported spills and overfills in a manner that will protect human health and the environment.

§ 281.35 Release response and corrective action.

In order to be considered no less stringent than the corresponding federal requirements for release response and corrective action, the state must have requirements that ensure:

(a) All releases from UST systems are promptly assessed and further releases are stopped;

(b) Actions are taken to identify, contain and mitigate any immediate health and safety threats that are posed by a release (such activities include investigation and initiation of free product removal, if present);

(c) All releases from UST systems are investigated to determine if there are impacts on soil and ground water, and any nearby surface waters. The extent of soil and ground water con-mination must be delineated when a tential threat to human health and e environment exists.

(d) All releases from UST systems e cleaned up through soil and ound water remediation and any her steps, as necessary to protect uman health and the environment;

(e) Adequate information is made ailable to the state to demonstrate at corrective actions are taken in ac- rdance with the requirements of aragraphs (a) through (d) of this sec- on. This information must be submit- d in a timely manner that demon- rates its technical adequacy to pro- ct human health and the environ- ent; and

(f) In accordance with § 280.67, the tate must notify the affected public f all confirmed releases requiring a lan for soil and ground water remedi- tion, and upon request provide or nake available information to inform he interested public of the nature of he release and the corrective meas- ures planned or taken.

281.36 Out-of-service UST systems and closure.

In order to be considered no less stringent than the corresponding fed- ral requirements for temporarily closed UST systems and permanent closure, the state must have requirements that ensure UST systems conform with the following:

(a) Removal from service. All new and existing UST systems temporarily closed must:

(1) Continue to comply with general operating requirements, release reporting and investigation, and release response and corrective action;

(2) Continue to comply with release detection requirements if regulated substances are stored in the tank;

(3) Be closed off to outside access; and

(4) Be permanently closed if the UST system has not been protected from corrosion and has not been used in one year, unless the state approves an extension after the owner and operator conducts a site assessment.

(b) Permanent closure of UST systems. All tanks and piping must be cleaned and permanently closed in a manner that eliminates the potential for safety hazards and any future releases. The owner or operator must notify the state of permanent UST system closures. The site must also be assessed to determine if there are any present or were past releases, and if so, release response and corrective action requirements must be complied with.

(c) All UST systems taken out of service before the effective date of the federal regulations must permanently close in accordance with paragraph (b) of this section when directed by the implementing agency.

§ 281.37 Financial responsibility for UST systems containing petroleum.

(a) In order to be considered no less stringent than the federal requirements for financial responsibility for UST systems containing petroleum, the state requirements for financial responsibility for petroleum UST systems must ensure that:

(1) Owners and operators have $1 million per occurrence for corrective action and third-party claims in a timely manner to protect human health and the environment;

(2) Owners and operators not engaged in petroleum production, refining, and marketing and who handle a throughput of 10,000 gallons of petroleum per month or less have $500,000 per occurrence for corrective action and third-party claims in a timely manner to protect human health and the environment;

(3) Owners and operators of 1 to 100 petroleum USTs must have an annual aggregate of $1 million; and

(4) Owners and operators of 101 or more petroleum USTs must have an annual aggregate of $2 million.

(b) Phase-in of requirements. Financial responsibility requirements for petroleum UST systems must, at a minimum, be scheduled to be applied at all UST systems on an orderly schedule that completes a phase-in of the financial responsibility requirements within 21 months after the effective date of the federal regulations.

(c) States may allow the use of a wide variety of financial assurance mechanisms to meet this requirement. Each financial mechanism must meet the following criteria in order to be no less stringent than the federal requirements. The mechanism must: Be valid and enforceable; be issued by a provider that is qualified or licensed in the state; not permit cancellation without allowing the state to draw funds; ensure that funds will only and directly be used for corrective action and third party liability costs; and require that the provider notify the owner or operator of any circumstances that would impair or suspend coverage.

(d) States must require owners and operators to maintain records that demonstrate compliance with the state financial responsibility requirements, and these records must be made readily available when requested by the implementing agency.

[53 FR 43382, Oct. 26, 1988; 53 FR 51274, Dec. 21, 1988; 54 FR 38788, Sept. 20, 1989]

§ 281.38 Financial responsibility for USTs containing hazardous substances. [Reserved]

Subpart D—Adequate Enforcement of Compliance

§ 281.40 Requirements for compliance monitoring program and authority.

(a) Any authorized representative of the state engaged in compliance inspections, monitoring, and testing must have authority to obtain by request any information from an owner or operator with respect to the UST system(s) that is necessary to determine compliance with the regulations.

(b) Any authorized representative of the state must have authority to require an owner or operator to conduct monitoring or testing.

(c) Authorized representatives must have the authority to enter any site or premises subject to UST system regulations or in which records relevant to the operation of the UST system(s) are kept, and to copy these records, obtain samples of regulated substances, and inspect or conduct the monitoring or testing of UST system(s).

(d) State programs must have procedures for receipt, evaluation, retention, and investigation of records and reports required of owners or operators and must provide for enforcement of failure to submit these records and reports.

(e)(1) State programs must have inspection procedures to determine, independent of information supplied by regulated persons, compliance with program requirements, and must provide for enforcement of failure to comply with the program requirements. States must maintain a program for systematic inspections of facilities subject to regulations in a manner designed to determine compliance or non-compliance, to verify accuracy of information submitted by owners or operators of regulated USTs, and to verify adequacy of methods used by owners or operators in developing that information.

(2) When inspections are conducted, samples taken, or other information gathered, these procedures must be conducted in a manner (for example, using proper "chain of custody" procedures) that will produce evidence admissible in an enforcement proceeding, or in court.

(f) Public effort in reporting violations must be encouraged and the state enforcement agency(ies) must make available information on reporting procedures. State programs must maintain a program for investigating information obtained from the public about suspected violations of UST program requirements.

(g) The state program must maintain the data collected through inspections and evaluation of records in such a manner that the implementing agency can monitor over time the compliance status of the regulated community. Any compilation, index, or inventory of such facilities and activities shall be made available to EPA upon request.

§ 281.41 Requirements for enforcement authority.

(a) Any state agency administering a program must have the authority to implement the following remedies for violations of state program requirements:

(1) To restrain immediately and effectively any person by order or by suit in state court from engaging in any unauthorized activity that is en-

dangering or causing damage to public health or the environment;

(2) To sue in courts of competent jurisdiction to enjoin any threatened or continuing violation of any program requirement;

(3) To assess or sue to recover in court civil penalties as follows:

(i) Civil penalties for failure to notify or for submitting false information pursuant to tank notification requirements must be capable of being assessed up to $5,000 or more per violation.

(ii) Civil penalties for failure to comply with any state requirements or standards for existing or new tank systems must be capable of being assessed for each instance of violation, up to $5,000 or more for each tank for each day of violation. If the violation is continuous, civil penalties shall be capable of being assessed up to $5,000 or more for each day of violation.

(b) The burden of proof and degree of knowledge or intent required under state law for establishing violations under paragraph (a)(3) of this section, must be no greater than the burden of proof or degree of knowledge or intent that EPA must provide when it brings an action under Subtitle I of the Resource Conservation and Recovery Act.

(c) A civil penalty assessed, sought, or agreed upon by the state enforcement agency(ies) under paragraph (a)(3) of this section must be appropriate to the violation.

§ 281.42 Requirements for public participation.

Any state administering a program must provide for public participation in the state enforcement process by providing any one of the following three options:

(a) Authority that allows intervention analogous to Federal Rule 24(a)(2), and assurance by the appropriate state enforcement agency that it will not oppose intervention under the state analogue to Rule 24(a)(2) on the ground that the applicant's interest is adequately represented by the State.

(b) Authority that allows intervention as of right in any civil action to obtain the remedies specified in § 281.41 by any citizen having an interest that is or may be adversely affected; or

(c) Assurance by the appropriate state agency that:

(1) It will provide notice and opportunity for public comment on all proposed settlements of civil enforcement actions (except where immediate action is necessary to adequately protect human health and the environment);

(2) It will investigate and provide responses to citizen complaints about violations; and

(3) It will not oppose citizen intervention when permissive intervention is allowed by statute, rule, or regulation.

§ 281.43 Sharing of information.

(a) States with approved programs must furnish EPA, upon request, any information in state files obtained or used in the administration of the state program. This information includes:

(1) Any information submitted to the state under a claim of confidentiality. The state must submit that claim to EPA when providing such information. Any information obtained from a state and subject to a claim of confidentiality will be treated in accordance with federal regulations in 40 CFR Part 2; and

(2) Any information that is submitted to the state without a claim of confidentiality. EPA may make this information available to the public without further notice.

(b) EPA must furnish to states with approved programs, upon request, any information in EPA files that the state needs to administer its approved state program. Such information includes:

(1) Any information that is submitted to EPA without a claim of confidentiality; and

(2) Any information submitted to EPA under a claim of confidentiality, subject to the conditions in 40 CFR Part 2.

Subpart E—Approval Procedures

§ 281.50 Approval procedures for state programs.

(a) The following procedures are required for all applications, regardless of whether the application is for a partial or complete program, as defined in § 281.12, or for interim or final approval in accordance with § 281.11.

(b) Before submitting an application to EPA for approval of a state program, the state must provide an opportunity for public notice and comment in the development of its underground storage tank program.

(c) When EPA receives a state program application, EPA will examine the application and notify the state whether its application is complete, in accordance with the application components required in § 281.20. The 180-day statutory review period begins only after EPA has determined that a complete application has been received.

(d) The state and EPA may by mutual agreement extend the review period.

(e) After receipt of a complete program application, the Administrator will tentatively determine approval or disapproval of the state program. EPA shall issue public notice of the tentative determination in the FEDERAL REGISTER; in enough of the largest newspapers in the state to attract statewide attention; and to persons on the state agency mailing list and any other persons who the agency has reason to believe are interested. Notice of the tentative determination must also:

(1) Afford the public 30 days after the notice to comment on the state's application and the Administrator's tentative determination; and

(2) Include a general statement of the areas of concern, if the Administrator indicates the state program may not be approved; and

(3) Note the availability for inspection by the public of the state program application; and

(4) Indicate that a public hearing will be held by EPA no earlier than 30 days after notice of the tentative determination unless insufficient public interest is expressed, at which time the Regional Administrator may cancel the public hearing.

(f) Within 180 days of receipt of a complete state program application, the Administrator must make a final determination whether to approve the state program after review of all public comments. EPA will give notice of its determination in the FEDERAL REGISTER and codify the approved state program. The notice must include a statement of the reasons for this determination and a response to significant comments received.

§ 281.51 Amendment required at end of interim period.

(a) State programs that meet the requirements of section 281.11(c) (1) and (2) may be approved for 1 to 3 years from September 23, 1988. States that receive such interim approval must adopt requirements that are no less stringent than the corresponding federal requirements and standards within the timeframes specified under § 281.11(c)(3).

(b) By the end of the specified time period, a state with interim approval must submit to EPA an amendment to its application that includes all modified and new requirements for any of the elements containing less stringent requirements. Such amended applications must also include a modified program description, an Attorney General's statement and a Memorandum of Agreement that incorporate the amended program requirements, and copies of all applicable state statutes and regulations.

(c) Upon receipt of the application amendment, the Administrator shall follow the same review and approval procedures as required in § 281.50.

(d) If a state fails to submit an amendment within the specified timeframe, the interim approval of the state program expires upon the applicable date established under § 281.11(c), and the Subtitle I program automatically reverts to EPA.

(e) If a state submits an amendment to the program application within the timeframe specified under § 281.11(c)(3) and the amendmant is disapproved after the end of the time period, the interim approval of the state program expires immediately upon disapproval and the Subtitle I program automatically reverts to EPA.

(f) If interim approval of the state program expires, EPA must notify the regulated community and the public of the re-establishment of the federal program through a notice in the FEDERAL REGISTER.

§ 281.52 Revision of approved state programs.

(a) Either EPA or the approved state may initiate program revision. Program revision may be necessary when the controlling federal or state statutory or regulatory authority is changed or when responsibility for the state program is shifted to a new agency or agencies. The state must inform EPA of any proposed modifications to its basic statutory or regulatory authority or change in division of responsibility among state agencies. EPA will determine in each case whether a revision of the approved program is required.

(b) Whenever the Administrator has reason to believe that circumstances have changed with respect to an approved state program or the federal program, the Administrator may request, and the state must provide, a revised application as prescribed by EPA.

(c) The Administrator will approve or disapprove program revisions based on the requirements of this Part and of Subtitle I pursuant to the procedures under this section, or under section 281.50 if EPA has reason to believe the proposed revision will receive significant negative comment from the public.

(1) The Administrator must issue public notice of planned approval or disapproval of a state program revision in the FEDERAL REGISTER; in enough of the largest newspapers in the state to attract statewide attention; and by mailing to persons on the state agency mailing list and to any other persons who the agency has reason to believe are interested. The public notice must summarize the state program revision, indicate whether EPA intends to approve or disapprove the revision, and provide for an opportunity to comment for a period of 30 days.

(2) The Administrator's decision on the proposed revision becomes effective 60 days after the date of publication in the FEDERAL REGISTER in accordance with paragraph (c)(1) of this section, unless significant negative comment opposing the proposed revision is received during the comment period. If significant negative comment is received, EPA must notify the state and within 60 days after the date of publication, publish in the FEDERAL REGISTER either:

(i) A withdrawal of the immediate final decision, which will then be treated as a tentative decision in accordance with the applicable procedures of § 281.50 (e) and (f); or

(ii) A notice that contains a response to significant negative comments and affirms either that the immediate final decision takes effect or reverses the decision.

(d) Revised state programs that receive approval must be codified in the FEDERAL REGISTER.

Subpart F—Withdrawal of Approval of State Programs

§ 281.60 Criteria for withdrawal of approval of state programs.

(a) The Administrator may withdraw program approval when the Agency determines that a state no longer has adequate regulatory or statutory authority or is not administering and enforcing an approved program in accordance with this part. The state must have adequate capability to administer and enforce the state program. In evaluating whether such capability exists, the Agency will consider whether the state is implementing an adequate enforcement program by evaluating the quality of compliance monitoring and enforcement actions.

(b) Such withdrawal of approval will occur only after the state fails to take appropriate action within a reasonable time, not to exceed 120 days after notice from the Administrator that the state is not administering and enforcing its program in accordance with the requirements of this part.

§ 281.61 Procedures for withdrawal of approval of state programs.

(a) The following procedures apply when a state with an approved program voluntarily transfers to EPA those program responsibilities required by federal law.

(1) The state must give EPA notice of the proposed transfer, and submit, at least 90 days before the transfer, a plan for the orderly transfer of all relevant program information necessary for EPA to administer the program.

(2) Within 30 days of receiving the state's transfer plan, EPA must evaluate the plan and identify any additional information needed by the federal government for program administration.

(3) At least 30 days before the transfer is to occur, EPA must publish notice of the transfer in the FEDERAL REGISTER; in enough of the largest newspapers in the state to attract statewide attention; and to persons on appropriate state mailing lists.

(b) When EPA begins proceedings to determine whether to withdraw approval of a state program (either on its own initiative or in response to a petition from an interested person), withdrawal proceedings must be conducted in accordance with procedures set out in 40 CFR 271.23 (b) and (c), except for § 271.23(b)(8)(iii) to the extent that it deviates from requirements under § 281.60.

PARTS 282—299 [RESERVED]

FINDING AIDS

A list of CFR titles, subtitles, chapters, subchapters and parts and an alphabetical list of agencies publishing in the CFR are included in the CFR Index and Finding Aids volume to the Code of Federal Regulations which is published separately and revised annually.

Material Approved for Incorporation by Reference
Table of CFR Titles and Chapters
Alphabetical List of Agencies Appearing in the CFR
Distribution Tables
List of CFR Sections Affected

Material Approved for Incorporation by Reference

(Revised as of June 29, 1990)

The Director of the Federal Register has approved under 5 U.S.C. 552(a) and 1 CFR Part 51 the incorporation by reference of the following publications. This list contains only those incorporations by reference effective as of the revision date of this volume. Incorporations by reference found within a regulation are effective upon the effective date of that regulation. For more information on incorporation by reference, see the preliminary pages of this volume.

40 CFR CHAPTER I (PARTS 260, 261, 264, 265, 268, AND 270): SUBCHAPTER I–SOLID WASTES
ENVIRONMENTAL PROTECTION AGENCY

	40 CFR
American Society for Testing Materials 1916 Race St., Philadelphia, PA 19103	
ASTM D 93–80 Flash Point by Pennsky–Martens Closed Tester	261.21(a)(1)
ASTM D 3278–78 Flash Point for Liquids by Setaflash Closed Tester	261.21(a)(1)
Environmental Protection Agency Office of Solid Waste and Emergency Response, Waste Characterization Branch, Washington, DC 20460	
Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods, 2nd Edition, 1982 (EPA publication SW–846), as amended by Update I (April, 1984) and Update II (April, 1985). The second edition of SW–846 and Updates I and II are available from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161, (703) 487–4600, as document no. PB 87–120–291.	260.11(a); 261.22(a)(1) and (2); Part 261, Appendices II and III; 270.6(a)
47 analytical testing methods contained in Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW–846), 3rd Edition, November 1986 and Revision I, December 1987. The Third Edition of SW–846 and Revision I are available from the Government Printing Office, Superintendent of Documents, Washington, DC 20402, (202) 783–3238, as document number 955–001–00000–1.	260.11(a); Appendix III
Method 9095 (Paint Filter Liquids Test	268.32(i)
National Fire Protection Association Batterymarch Park, Quincy, MA 02269	
Flammable and Combustible Liquids Code, 1981	264.198(b); 265.198(b)

40 CFR CHAPTER I (PART 272): APPROVED STATE HAZARDOUS WASTE MANAGEMENT PROGRAMS
ENVIRONMENTAL PROTECTION AGENCY

State Statutes and Regulations	
Delaware: (1) 7 Delaware Code Annotated sections 6301–6307 and 6310–6317 (Replacement Volume 1983); (2) Delaware Department of Natural Resources and Environmental Control regulations governing hazardous waste parts 260–265, 122, 124 and Order Number 83–SW–1, July 28, 1983.	272.401

40 CFR CHAPTER I (PART 272): APPROVED STATE HAZARDOUS WASTE MANAGEMENT PROGRAMS—Continued

ENVIRONMENTAL PROTECTION AGENCY—Continued

Illinois: Title 35 of the Illinois Administrative Code (January 1, 1985, as amended January 1, 1986: Sections 702.101—702.104, 702.110—702.187; Sections 703.100—703.246; Sections 709.102—709.603; Sections 720.101—720.141, Appendix A; Sections 721.101—721.133, Appendices A, B, C, G, H, and I; Sections 722.110—722.151; Sections 723.110—723.131; Sections 724.101—724.451, Appendices A, D, and E; Sections 725.101—725.530, Appendices A, D, and E; Sections 729.100—729.231.	272.701(a)
Indiana: Indiana Administrative Code, Title 320, Articles 4.1-1-3 through 4.1-37-4, 4.1-37-6 through 4.1-39-12, and 4.1-40-1 through 4.1-54-8 (1987 Cumulative Supplement, Volume 2, as supplemented by the Indiana Register, Volume 10, Number 8, pages 1563—1690, May 1, 1987).	272.751(a)
Michigan: (1) Michigan Compiled Laws Annotated, Sections 299.501-506, 299.521-522, 299.532-535, 299.537, and 299.539-541 (P.A. 64 of 1979 as amended by P.A. 486 of 1982, effective March 30, 1983); (2) Michigan Administrative Code Rules 299.9101-9208(1), 299.9208(3)-9209(1), 299.9209(4)-9209(5), 299.9210(2)-9211(1)(a), 299.9211(2)-9212(4), 299.9212(6)-(7), 299.9212(9)-9213(1)(a), 299.9213(1)(c), 299.9213(2), 299.9214(1)-(6)(b), 299.9215-9217, 299.9220, 299.9222, 299.9224-9225, 299.9301-9304(1)(b), 299.9304(1)(d)-9401(5), 299.9402, 299.9404(1), 299.9404(1)(b)-9405, 299.9407, 299.9409-9410, 299.9501-9504(1) introductory text, 299.9504(1)(b)-9506, 299.9508-9508(1)(g), 299.9508(1)(i)-9521(1)(b), 299.9521(2)-9522, 299.9601-9611(2)(a), 299.9611(3)-9623(1), 299.9623(3)-9710, 299.9801-9804, 299.11001-11008 (1985 Annual Michigan Administrative Code Supplement, as supplemented by the April 1988 Michigan Register, pages 3-107).	272.1151(a)
Minnesota: (1) Minnesota Statutes, Chapters 13.03; 13.05 subdivision 9; 13.08; 13.37, 15.17, 15.171; 115.061; 115A.03; 116.06; 116.07 subdivisions 4, 4a, 4b, 5, and 8; 116.075; 116.081 subdivisions 1 and 3; and 116.14 (1988); (2) Minnesota Rules, 7001.0010; 701.0020(B); 7001.0030—7001.0150(3)(C); 7001.0150(3)(E)—7001.0200; 7001.0500—7001.0730(2); 7001.0730(4); 7045.0020—7045.0080; 7045.0120—7045.0143; 7045.0205—7045.0270(6); 7045.0275—7045.0508; 7045.0516—7045.0685 (March 6, 1989).	272.1201(a)
Missouri: (1) Missouri Revised Statutes, Chapter 260, sections 260.350-260.360(11), 260.360(13)—260.360(18), 260.380-1—260.380-1.(9), 260.380-2—260.385 (un-numbered first paragraph), 260.385(2)—260.390(7), 260.390(9), 260.395-6—260.395-7.(4), 260.395-7.(7)—260.395-18, (1986); (2) Missouri Code of State Regulations, Title 10, Division 25, sections 3.260—3.260(1)(A)19., 3.260(1)(A)21.—3.260(1)(A)22., 3.260(2), 4.261—4.261(2)(A)4., 4.261(2)(D)3, 5.262—5.262(2)(B)1., 5.262(2)(B)3.—5.262(2)(F), 6.263—6.263(2)(A)2, 6.263(2)(A)5.—6.263(2)(D), 7.264—7.264(2)(0)3., 7.264(2)(Q), 7.265, 7.266—7.266(2)(D), 7.266(2)(D)2, 7.270—7.270(2)(B)6., 7.270(2)(B)9.—7.270(2)(B)13., 7.270(2)(C)—7.270(2)(C)1.A. The un-numbered first sentence before the phrase "upon payment of a fee ... the first year."), 7.270(2)(C)1.A. (The un-numbered second sentence)—2.270.(2)(C)1.C., 7.270(2)(C)2.—7.270(2)2.E., 7.270(2)(D)—7.270(2)(G) (as effective August 1, 1987)..	272.1301(a)

40 CFR CHAPTER I (PART 272): APPROVED STATE HAZARDOUS WASTE MANAGEMENT PROGRAMS—Continued

ENVIRONMENTAL PROTECTION AGENCY—Continued

Montana: (1) Montana Hazardous Waste Act, Montana Code Annotated sections 75–10–401 through 75–10–413 and 75–10–419 through 75–10–421 (1983); (2) Administrative Rules of Montana, Health and Environmental Sciences, sections 16.44.101 through 16.44.911 (1983) and the amendments to sections 16.44.104.106, 108, 109, 202, 811, 817 and 819 adopted on January 16, 1984.	272.1351
Ohio: (1) *Ohio Administrative Code,* Volume 4, Chapter 3745 (June 30, 1988). Sections: 50–01; 50–03; 50–10; 50–11; 50–31 through 50–32; 50–40 through 50–44(C)(3)(j); 50–44(C)(4) through 50–44(C)(4)(k); 50–44(C)(5) through 50–44(C)(5)(h); 50–44(C)(6) through 50–44(7)(i); 50–44(C)(8) through 51–03(C)(2)(b)(i); 51–03(D) through 51–03(E); 51–04 through 51–05(D)(2); 51–05(E) through 51–05(F)(2); 51–05(G) through 51–05(I); 51–06(A)(1) through 51–06(A)(3)(g); 51–06(B) through 52–20(E); 52–20 Appendix I through 52–34(C)(2); 52–40 through 52–43; 52–50 through 53–10; 53–11(D) through 53–20(G); 53–21 through 55–99; 56–20 through 56–31; 56–50 through 56–59; 56–70 through 56–82; 57–01 through 57–14(B); 57–15 through 57–17; 57–40 through 58–40; 58–43 through 58–44; 58–45(C); 58–46(C); 58–60 through 65–01(C); 65–10 through 68–14(C); 68–15 through 68–51; 68–70 through 68–82; 69–01 through 69–30, as supplemented by 1988–1989 *Ohio Monthly Record,* as applicable to the sections above, pp. 430–495 (November 1988) and pp. 848–868 (February 1989)..	272.1801(a)
Wisconsin: (1) Wisconsin Administrative Code, Volume 12, Sections NR: 181.01–181.02; 181.04–181.05; 181.06(3)–181.07; 181.09; 181.11–181.12(3); 181.12(4)(b)–181.27; 181.31(2)–181.47; 181.49–181.54; 181.55(2); 181.55(4)–181.55(10); Appendix 1; and Appendix 2 (effective April 1, 1988). (2) Wisconsin Statutes, Volume 3, Sections: 144.01; 144.43–433; 144.44 (except 144.44(4)(a)); 144.441(1)–(2); 144.441(3)(b), (d), (f), and (g); 144.441(4)(a) and (c)–(g); 144.441(5)(b)–(d); 144–441(6); 144.442(1) and (4)–(11); 144.443; 144.444; 144.60–144.63, and; 144.64(2) and (3) (except for 144.64(2)(e)(1)) (1985–86)..	272.2501(a)

Table of CFR Titles and Chapters

(Revised as of June 15, 1990)

Title 1—General Provisions

I	Administrative Committee of the Federal Register (Parts 1—49)
II	Office of the Federal Register (Parts 50—299)
III	Administrative Conference of the United States (Parts 300—399)
IV	Miscellaneous Agencies (Parts 400—500)

Title 2—[Reserved]

Title 3—The President

I	Executive Office of the President (Parts 100—199)

Title 4—Accounts

I	General Accounting Office (Parts 1—99)
II	Federal Claims Collection Standards (General Accounting Office—Department of Justice) (Parts 100—299)
III	General Accounting Office (CASB) (Parts 300—499)

Title 5—Administrative Personnel

I	Office of Personnel Management (Parts 1—1199)
II	Merit Systems Protection Board (Parts 1200—1299)
III	Office of Management and Budget (Parts 1300—1399)
IV	Advisory Committee on Federal Pay (Parts 1400—1499)
V	The International Organizations Employees Loyalty Board (Parts 1500—1599)
VI	Federal Retirement Thrift Investment Board (Parts 1600—1699)
VII	Advisory Commission on Intergovernmental Relations (Parts 1700—1799)
VIII	Office of Special Council (Parts 1800—1899)
IX	Appalachian Regional Commission (Parts 1900—1999)
XI	United States Soldiers' and Airmen's Home (Parts 2100—2199)
XIV	Federal Labor Relations Authority, General Counsel of the Federal Labor Relations Authority and Federal Service Impasses Panel (Parts 2400—2499)

Title 5—Administrative Personnel—Continued

Chap.	
XV	Office of Administration, Executive Office of the President (Parts 2500—2599)
XVI	Office of Government Ethics (Parts 2600—2699)

Title 6—[Reserved]

Title 7—Agriculture

	SUBTITLE A—Office of the Secretary of Agriculture (Parts 0—26)
	SUBTITLE B—Regulations of the Department of Agriculture
I	Agricultural Marketing Service (Standards, Inspections, Marketing Practices), Department of Agriculture (Parts 27—209)
II	Food and Nutrition Service, Department of Agriculture (Parts 210—299)
III	Animal and Plant Health Inspection Service, Department of Agriculture (Parts 300—399)
IV	Federal Crop Insurance Corporation, Department of Agriculture (Parts 400—499)
V	Agricultural Research Service, Department of Agriculture (Parts 500—599)
VI	Soil Conservation Service, Department of Agriculture (Parts 600—699)
VII	Agricultural Stabilization and Conservation Service (Agricultural Adjustment), Department of Agriculture (Parts 700—799)
VIII	Federal Grain Inspection Service, Department of Agriculture (Parts 800—899)
IX	Agricultural Marketing Service (Marketing Agreements and Orders; Fruits, Vegetables, Nuts), Department of Agriculture (Parts 900—999)
X	Agricultural Marketing Service (Marketing Agreements and Orders; Milk), Department of Agriculture (Parts 1000—1199)
XI	Agricultural Marketing Service (Marketing Agreements and Orders; Miscellaneous Commodities), Department of Agriculture (Parts 1200—1299)
XIV	Commodity Credit Corporation, Department of Agriculture (Parts 1400—1499)
XV	Foreign Agricultural Service, Department of Agriculture (Parts 1500—1599)
XVI	Rural Telephone Bank, Department of Agriculture (Parts 1600—1699)
XVII	Rural Electrification Administration, Department of Agriculture (Parts 1700—1799)
XVIII	Farmers Home Administration, Department of Agriculture (Parts 1800—2099)
XXI	Foreign Economic Development Service, Department of Agriculture (Parts 2100—2199)
XXII	Office of International Cooperation and Development, Department of Agriculture (Parts 2200—2299)

Title 7—Agriculture—Continued

Chap.	
XXIV	Board of Contract Appeals, Department of Agriculture (Parts 2400—2499)
XXV	Office of the General Sales Manager, Department of Agriculture (Parts 2500—2599)
XXVI	Office of Inspector General, Department of Agriculture (Parts 2600—2699)
XXVII	Office of Information Resources Management, Department of Agriculture (Parts 2700—2799)
XXVIII	Office of Operations, Department of Agriculture (Parts 2800—2899)
XXIX	Office of Energy, Department of Agriculture (Parts 2900—2999)
XXX	Office of Finance and Management, Department of Agriculture (Parts 3000—3099)
XXXI	Office of Environmental Quality, Department of Agriculture (Parts 3100—3199)
XXXII	Office of Grants and Program Systems, Department of Agriculture (Parts 3200—3299)
XXXIII	Office of Transportation, Department of Agriculture (Parts 3300—3399)
XXXIV	Cooperative State Research Service, Department of Agriculture (Parts 3400—3499)
XXXVI	National Agricultural Statistics Service, Department of Agriculture (Parts 3600—3699)
XXXVII	Economic Research Service, Department of Agriculture (Parts 3700—3799)
XXXVIII	World Agricultural Outlook Board, Department of Agriculture (Parts 3800—3899)
XXXIX	Economic Analysis Staff, Department of Agriculture (Parts 3900—3999)
XL	Economics Management Staff, Department of Agriculture (Parts 4000—4099)
XLI	National Agricultural Library, Department of Agriculture (Part 4100)

Title 8—Aliens and Nationality

I	Immigration and Naturalization Service, Department of Justice (Parts 1—499)

Title 9—Animals and Animal Products

I	Animal and Plant Health Inspection Service, Department of Agriculture (Parts 1—199)
II	Packers and Stockyards Administration, Department of Agriculture (Parts 200—299)
III	Food Safety and Inspection Service, Meat and Poultry Inspection, Department of Agriculture (Parts 300—399)

Title 10—Energy

Chap.	
I	Nuclear Regulatory Commission (Parts 0—199)
II	Department of Energy (Parts 200—699)
III	Department of Energy (Parts 700—999)
X	Department of Energy (General Provisions) (Parts 1000—1099)
XV	Office of the Federal Inspector for the Alaska Natural Gas Transportation System (Parts 1500—1599)

Title 11—Federal Elections

I	Federal Election Commission (Parts 1—9099)

Title 12—Banks and Banking

I	Comptroller of the Currency, Department of the Treasury (Parts 1—199)
II	Federal Reserve System (Parts 200—299)
III	Federal Deposit Insurance Corporation (Parts 300—399)
IV	Export-Import Bank of the United States (Parts 400—499)
V	Office of Thrift Supervision, Department of The Treasury (Parts 500—599)
VI	Farm Credit Administration (Parts 600—699)
VII	National Credit Union Administration (Parts 700—799)
VIII	Federal Financing Bank (Parts 800—899)
IX	Federal Housing Finance Board (Parts 900—999)
XI	Federal Financial Institutions Examination Council (Parts 1100—1199)
XIII	Farm Credit System Assistance Board (Parts 1300—1399)
XV	Oversight Board (Parts 1500—1599)
XVI	Resolution Trust Corporation (Parts 1600—1699)

Title 13—Business Credit and Assistance

I	Small Business Administration (Parts 1—199)
III	Economic Development Administration, Department of Commerce (Parts 300—399)

Title 14—Aeronautics and Space

I	Federal Aviation Administration, Department of Transportation (Parts 1—199)
II	Office of the Secretary, Department of Transportation (Aviation Proceedings) (Parts 200—399)
III	Office of Commercial Space Transportation, Department of Transportation (Parts 400—499)
V	National Aeronautics and Space Administration (Parts 1200—1299)

Title 15—Commerce and Foreign Trade

Chap.	
	Subtitle A—Office of the Secretary of Commerce (Parts 0—29)
	Subtitle B—Regulations Relating to Commerce and Foreign Trade
I	Bureau of the Census, Department of Commerce (Parts 30—199)
II	National Bureau of Standards, Department of Commerce (Parts 200—299)
III	International Trade Administration, Department of Commerce (Parts 300—399)
IV	Foreign-Trade Zones Board (Parts 400—499)
VII	Bureau of Export Administration, Department of Commerce (Parts 700—799)
VIII	Bureau of Economic Analysis, Department of Commerce (Parts 800—899)
IX	National Oceanic and Atmospheric Administration, Department of Commerce (Parts 900—999)
XI	Technology Administration, Department of Commerce (Parts 1100—1199)
XII	United States Travel Service, Department of Commerce (Parts 1200—1299)
XIII	East-West Foreign Trade Board (Parts 1300—1399)
XIV	Minority Business Development Agency (Parts 1400—1499)
	Subtitle C—Regulations Relating to Foreign Trade Agreements
XX	Office of the United States Trade Representative (Parts 2000—2099)
	Subtitle D—Regulations Relating to Telecommunications and Information
XXIII	National Telecommunications and Information Administration, Department of Commerce (Parts 2300—2399)

Title 16—Commercial Practices

I	Federal Trade Commission (Parts 0—999)
II	Consumer Product Safety Commission (Parts 1000—1799)

Title 17—Commodity and Securities Exchanges

I	Commodity Futures Trading Commission (Parts 1—199)
II	Securities and Exchange Commission (Parts 200—399)
IV	Department of the Treasury (Parts 400—499)

Title 18—Conservation of Power and Water Resources

I	Federal Energy Regulatory Commission, Department of Energy (Parts 1—399)
III	Delaware River Basin Commission (Parts 400—499)
VI	Water Resources Council (Parts 700—799)
VIII	Susquehanna River Basin Commission (Parts 800—899)

Title 18—Conservation of Power and Water Resources—Continued

Chap.	
XIII	Tennessee Valley Authority (Parts 1300—1399)

Title 19—Customs Duties

I	United States Customs Service, Department of the Treasury (Parts 1—199)
II	United States International Trade Commission (Parts 200—299)
III	International Trade Administration, Department of Commerce (Parts 300—399)

Title 20—Employees' Benefits

I	Office of Workers' Compensation Programs, Department of Labor (Parts 1—199)
II	Railroad Retirement Board (Parts 200—399)
III	Social Security Administration, Department of Health and Human Services (Parts 400—499)
IV	Employees' Compensation Appeals Board, Department of Labor (Parts 500—599)
V	Employment and Training Administration, Department of Labor (Parts 600—699)
VI	Employment Standards Administration, Department of Labor (Parts 700—799)
VII	Benefits Review Board, Department of Labor (Parts 800—899)
VIII	Joint Board for the Enrollment of Actuaries (Parts 900—999)
IX	Office of the Assistant Secretary for Veterans' Employment and Training, Department of Labor (Parts 1000—1099)

Title 21—Food and Drugs

I	Food and Drug Administration, Department of Health and Human Services (Parts 1—1299)
II	Drug Enforcement Administration, Department of Justice (Parts 1300—1399)

Title 22—Foreign Relations

I	Department of State (Parts 1—199)
II	Agency for International Development, International Development Cooperation Agency (Parts 200—299)
III	Peace Corps (Parts 300—399)
IV	International Joint Commission, United States and Canada (Parts 400—499)
V	United States Information Agency (Parts 500—599)
VI	United States Arms Control and Disarmament Agency (Parts 600—699)
VII	Overseas Private Investment Corporation, International Development Cooperation Agency (Parts 700—799)
IX	Foreign Service Grievance Board Regulations (Parts 900—999)
X	Inter-American Foundation (Parts 1000—1099)

Title 22—Foreign Relations—Continued

Chap.	
XI	International Boundary and Water Commission, United States and Mexico, United States Section (Parts 1100—1199)
XII	United States International Development Cooperation Agency (Parts 1200—1299)
XIII	Board for International Broadcasting (Parts 1300—1399)
XIV	Foreign Service Labor Relations Board; Federal Labor Relations Authority; General Counsel of the Federal Labor Relations Authority; and the Foreign Service Impasse Disputes Panel (Parts 1400—1499)
XV	African Development Foundation (Parts 1500—1599)
XVI	Japan-United States Friendship Commission (Parts 1600—1699)

Title 23—Highways

I	Federal Highway Administration, Department of Transportation (Parts 1—999)
II	National Highway Traffic Safety Administration and Federal Highway Administration, Department of Transportation (Parts 1200—1299)
III	National Highway Traffic Safety Administration, Department of Transportation (Parts 1300—1399)

Title 24—Housing and Urban Development

	SUBTITLE A—Office of the Secretary, Department of Housing and Urban Development (Parts 0—99)
	SUBTITLE B—Regulations Relating to Housing and Urban Development
I	Office of Assistant Secretary for Equal Opportunity, Department of Housing and Urban Development (Parts 100—199)
II	Office of Assistant Secretary for Housing-Federal Housing Commissioner, Department of Housing and Urban Development (Parts 200—299)
III	Government National Mortgage Association, Department of Housing and Urban Development (Parts 300—399)
V	Office of Assistant Secretary for Community Planning and Development, Department of Housing and Urban Development (Parts 500—599)
VI	Office of Assistant Secretary for Community Planning and Development, Department of Housing and Urban Development (Parts 600—699)
VII	Office of the Secretary, Department of Housing and Urban Development (Section 8 Housing Assistance Programs and Public and Indian Housing Programs) (Parts 700—799)
VIII	Office of the Assistant Secretary for Housing—Federal Housing Commissioner, Department of Housing and Urban Development (Section 8 Housing Assistance Programs and Section 202 Direct Loan Program) (Parts 800—899)
IX	Office of Assistant Secretary for Public and Indian Housing, Department of Housing and Urban Development (Parts 900—999)

Title 24—Housing and Urban Development—Continued

Chap.	
X	Office of Assistant Secretary for Housing—Federal Housing Commissioner, Department of Housing and Urban Development (Interstate Land Sales Registration Program) (Parts 1700—1799)
XI	Solar Energy and Energy Conservation Bank, Department of Housing and Urban Development (Parts 1800—1899)
XII	Office of Inspector General, Department of Housing and Urban Development (Parts 2000—2099)
XV	Mortgage Insurance and Loan Programs under the Emergency Homeowners' Relief Act, Department of Housing and Urban Development (Parts 2700—2799)
XX	Office of Assistant Secretary for Housing—Federal Housing Commissioner, Department of Housing and Urban Development (Parts 3200—3699)
XXV	Neighborhood Reinvestment Corporation (Parts 4100—4199)

Title 25—Indians

I	Bureau of Indian Affairs, Department of the Interior (Parts 1—299)
II	Indian Arts and Crafts Board, Department of the Interior (Parts 300—399)
IV	Navajo and Hopi Indian Relocation Commission (Parts 700—799)

Title 26—Internal Revenue

I	Internal Revenue Service, Department of the Treasury (Parts 1—699)

Title 27—Alcohol, Tobacco Products and Firearms

I	Bureau of Alcohol, Tobacco and Firearms, Department of the Treasury (Parts 1—299)

Title 28—Judicial Administration

I	Department of Justice (Parts 0—199)
III	Federal Prison Industries, Inc., Department of Justice (Parts 300—399)
V	Bureau of Prisons, Department of Justice (Parts 500—599)
VI	Offices of Independent Counsel, Department of Justice (Parts 600—699)
VII	Office of Independent Counsel (Parts 700—799)

Title 29—Labor

	SUBTITLE A—Office of the Secretary of Labor (Parts 0—99)
	SUBTITLE B—Regulations Relating to Labor
I	National Labor Relations Board (Parts 100—199)

Title 29—Labor—Continued

Chap.	
II	Bureau of Labor-Management Relations and Cooperative Programs, Department of Labor (Parts 200—299)
III	National Railroad Adjustment Board (Parts 300—399)
IV	Office of Labor-Management Standards, Department of Labor (Parts 400—499)
V	Wage and Hour Division, Department of Labor (Parts 500—899)
IX	Construction Industry Collective Bargaining Commission (Parts 900—999)
X	National Mediation Board (Parts 1200-1299)
XII	Federal Mediation and Conciliation Service (Parts 1400-1499)
XIV	Equal Employment Opportunity Commission (Parts 1600-1699)
XVII	Occupational Safety and Health Administration, Department of Labor (Parts 1900—1999)
XX	Occupational Safety and Health Review Commission (Parts 2200—2499)
XXV	Pension and Welfare Benefits Administration, Department of Labor (Parts 2500—2599)
XXVI	Pension Benefit Guaranty Corporation (Parts 2600—2699)
XXVII	Federal Mine Safety and Health Review Commission (Parts 2700—2799)

Title 30—Mineral Resources

I	Mine Safety and Health Administration, Department of Labor (Parts 1—199)
II	Minerals Management Service, Department of the Interior (Parts 200—299)
III	Board of Surface Mining and Reclamation Appeals, Department of the Interior (Parts 300—399)
IV	Geological Survey, Department of the Interior (Parts 400—499)
VI	Bureau of Mines, Department of the Interior (Parts 600—699)
VII	Office of Surface Mining Reclamation and Enforcement, Department of the Interior (Parts 700—999)

Title 31—Money and Finance: Treasury

	Subtitle A—Office of the Secretary of the Treasury (Parts 0—50)
	Subtitle B—Regulations Relating to Money and Finance
I	Monetary Offices, Department of the Treasury (Parts 51—199)
II	Fiscal Service, Department of the Treasury (Parts 200—399)
IV	Secret Service, Department of the Treasury (Parts 400—499)
V	Office of Foreign Assets Control, Department of the Treasury (Parts 500—599)
VI	Bureau of Engraving and Printing, Department of the Treasury (Parts 600—699)
VII	Federal Law Enforcement Training Center, Department of the Treasury (Parts 700—799)

Title 32—National Defense

Chap.	
	SUBTITLE A—Department of Defense
I	Office of the Secretary of Defense (Parts 1—399)
V	Department of the Army (Parts 400—699)
VI	Department of the Navy (Parts 700—799)
VII	Department of the Air Force (Parts 800—1099)
	SUBTITLE B—Other Regulations Relating to National Defense
XII	Defense Logistics Agency (Parts 1200-1299)
XVI	Selective Service System (Parts 1600-1699)
XIX	Central Intelligence Agency (Parts 1900—1999)
XX	Information Security Oversight Office (Parts 2000—2099)
XXI	National Security Council (Parts 2100—2199)
XXIV	Office of Science and Technology Policy (Parts 2400—2499)
XXVII	Office for Micronesian Status Negotiations (Parts 2700—2799)
XXVIII	Office of the Vice President of the United States (Parts 2800—2899)

Title 33—Navigation and Navigable Waters

I	Coast Guard, Department of Transportation (Parts 1—199)
II	Corps of Engineers, Department of the Army (Parts 200—399)
IV	Saint Lawrence Seaway Development Corporation, Department of Transportation (Parts 400—499)

Title 34—Education

	SUBTITLE A—Office of the Secretary, Department of Education (Parts 1—99)
	SUBTITLE B—Regulations of the Offices of the Department of Education
I	Office for Civil Rights, Department of Education (Parts 100—199)
II	Office of Elementary and Secondary Education, Department of Education (Parts 200—299)
III	Office of Special Education and Rehabilitative Services, Department of Education (Parts 300—399)
IV	Office of Vocational and Adult Education, Department of Education (Parts 400—499)
V	Office of Bilingual Education and Minority Languages Affairs, Department of Education (Parts 500—599)
VI	Office of Postsecondary Education, Department of Education (Parts 600—699)
VII	Office of Educational Research and Improvement, Department of Education (Parts 700—799)

Title 35—Panama Canal

Chap.	
I	Panama Canal Regulations (Parts 1—299)

Title 36—Parks, Forests, and Public Property

I	National Park Service, Department of the Interior (Parts 1—199)
II	Forest Service, Department of Agriculture (Parts 200—299)
III	Corps of Engineers, Department of the Army (Parts 300—399)
IV	American Battle Monuments Commission (Parts 400—499)
V	Smithsonian Institution (Parts 500—599)
VII	Library of Congress (Parts 700—799)
VIII	Advisory Council on Historic Preservation (Parts 800—899)
IX	Pennsylvania Avenue Development Corporation (Parts 900-999)
XI	Architectural and Transportation Barriers Compliance Board (Parts 1100—1199)
XII	National Archives and Records Administration (Parts 1200—1299)

Title 37—Patents, Trademarks, and Copyrights

I	Patent and Trademark Office, Department of Commerce (Parts 1—199)
II	Copyright Office, Library of Congress (Parts 200—299)
III	Copyright Royalty Tribunal (Parts 300—399)
IV	Assistant Secretary for Productivity, Technology and Innovation, Department of Commerce (Parts 400-499)
V	Under Secretary for Economic Affairs, Department of Commerce (500—599)

Title 38—Pensions, Bonuses, and Veterans' Relief

I	Department of Veterans Affairs (Parts 0—99)

Title 39—Postal Service

I	United States Postal Service (Parts 1—999)
III	Postal Rate Commission (Parts 3000—3099)

Title 40—Protection of Environment

I	Environmental Protection Agency (Parts 1—799)
V	Council on Environmental Quality (Parts 1500-1599)

Title 41—Public Contracts and Property Management

SUBTITLE B—Other Provisions Relating to Public Contracts

50	Public Contracts, Department of Labor (Parts 50-1—50-999)
51	Committee for Purchase from the Blind and Other Severely Handicapped (Parts 51-1—51-99)

Title 41—Public Contracts and Property Management—Continued

Chap.	
60	Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor (Parts 60-1—60-999)
61	Office of the Assistant Secretary for Veterans Employment and Training, Department of Labor (Parts 61-1—61-999)
	SUBTITLE C—Federal Property Management Regulations System
101	Federal Property Management Regulations (Parts 101-1—101-99)
105	General Services Administration (Parts 105-1—105-999)
109	Department of Energy Property Management Regulations (Parts 109-1—109-99)
114	Department of the Interior (Parts 114-1—114-99)
115	Environmental Protection Agency (Parts 115-1—115-99)
128	Department of Justice (Parts 128-1—128-99)
	SUBTITLE D—Other Provisions Relating to Property Management (Reserved)
	SUBTITLE E—Federal Information Resources Management Regulations System
201	Federal Information Resources Management Regulation (Parts 201-1—201-99)
	SUBTITLE F—Federal Travel Regulation System
301	Travel Allowances (Parts 301-1—301-14)
302	Relocation Allowances (Parts 302-1—302-12)
303	Payment of Expenses Connected with the Death of Certain Employees (Parts 302-1—302-2)
304	Reductions in Meeting and Training Allowance Payments. (Parts 304-1—304-2)

Title 42—Public Health

I	Public Health Service, Department of Health and Human Services (Parts 1—199)
III	Saint Elizabeths Hospital, Department of Health and Human Services (Parts 300—399)
IV	Health Care Financing Administration, Department of Health and Human Services (Parts 400—499)
V	Office of Inspector General-Health Care, Department of Health and Human Services (Parts 1000—1999)

Title 43—Public Lands: Interior

	SUBTITLE A—Office of the Secretary of the Interior (Parts 1—199)
	SUBTITLE B—Regulations Relating to Public Lands
I	Bureau of Reclamation, Department of the Interior (Parts 200—499)
II	Bureau of Land Management, Department of the Interior (Parts 1000—9999)

Title 44—Emergency Management and Assistance

Chap.	
I	Federal Emergency Management Agency (Parts 0—399)
IV	Department of Commerce and Department of Transportation (Parts 400—499)

Title 45—Public Welfare

	SUBTITLE A—Department of Health and Human Services, General Administration (Parts 1—199)
	SUBTITLE B—Regulations Relating to Public Welfare
II	Office of Family Assistance (Assistance Programs), Family Support Administration, Department of Health and Human Services (Parts 200—299)
III	Office of Child Support Enforcement (Child Support Enforcement Program), Family Support Administration, Department of Health and Human Services (Parts 300—399)
IV	Office of Refugee Resettlement, Family Support Administration, Department of Health and Human Services (Parts 400—499)
V	Foreign Claims Settlement Commission of the United States, Department of Justice (Parts 500—599)
VI	National Science Foundation (Parts 600—699)
VII	Commission on Civil Rights (Parts 700—799)
VIII	Office of Personnel Management (Parts 800—899)
X	Office of Community Services, Family Support Administration, Department of Health and Human Services (Parts 1000—1099)
XI	National Foundation on the Arts and the Humanities (Parts 1100—1199)
XII	ACTION (Parts 1200—1299)
XIII	Office of Human Development Services, Department of Health and Human Services (Parts 1300—1399)
XVI	Legal Services Corporation (Parts 1600—1699)
XVII	National Commission on Libraries and Information Science (Parts 1700—1799)
XVIII	Harry S. Truman Scholarship Foundation (Parts 1800—1899)
XX	Commission on the Bicentennial of the United States Constitution (Parts 2000—2099)
XXI	Commission on Fine Arts (Parts 2100—2199)
XXII	Christopher Columbus Quincentenary Jubilee Commission (2200—2299)

Title 46—Shipping

I	Coast Guard, Department of Transportation (Parts 1—199)
II	Maritime Administration, Department of Transportation (Parts 200—399)
III	Coast Guard (Great Lakes Pilotage), Department of Transportation (Parts 400—499)
IV	Federal Maritime Commission (Parts 500—599)

Title 47—Telecommunication

Chap.	
I	Federal Communications Commission (Parts 0—199)
II	Office of Science and Technology Policy and National Securit Council (Parts 200—299)
III	National Telecommunications and Information Administration Department of Commerce (Parts 300—399)

Title 48—Federal Acquisition Regulations System

1	Federal Acquisition Regulation (Parts 1—99)
2	Department of Defense (Parts 200—299)
3	Department of Health and Human Services (Parts 300—399)
4	Department of Agriculture (Parts 400—499)
5	General Services Administration (Parts 500—599)
6	Department of State (Parts 600—699)
7	Agency for International Development (Parts 700—799)
8	Department of Veterans Affairs (Parts 800—899)
9	Department of Energy (Parts 900—999)
10	Department of the Treasury (Parts 1000—1099)
12	Department of Transportation (Parts 1200—1299)
13	Department of Commerce (Parts 1300—1399)
14	Department of the Interior (Parts 1400—1499)
15	Environmental Protection Agency (Parts 1500—1599)
16	Office of Personnel Management Federal Employees Healt Benefits Acquisition Regulation (Parts 1600—1699)
17	Office of Personnel Management (Parts 1700—1799)
18	National Aeronautics and Space Administration (Parts 1800 1899)
19	United States Information Agency (Parts 1900—1999)
22	Small Business Administration (Parts 2200—2299)
24	Department of Housing and Urban Development (Parts 2400 2499)
25	National Science Foundation (Parts 2500—2599)
28	Department of Justice (Parts 2800—2899)
29	Department of Labor (Parts 2900—2999)
34	Department of Education Acquisition Regulation (Parts 3400 3499)
35	Panama Canal Commission (Parts 3500—3599)
44	Federal Emergency Management Agency (Parts 4400—4499)
51	Department of the Army Acquisition Regulations (Parts 510 5199)
52	Department of the Navy Acquisition Regulations (Parts 520 5299)
53	Department of the Air Force Federal Acquisition Regulati Supplement (Parts 5300—5399)
57	African Development Foundation (Parts 5700—5799)
61	General Services Administration Board of Contract Appe (Parts 6100—6199)

Title 48—Federal Acquisition Regulations System—Continued

Chap.

63 Department of Transportation Board of Contract Appeals (Parts 6300-6399)

Title 49—Transportation

SUBTITLE A—Office of the Secretary of Transportation (Parts 1—99)

SUBTITLE B—Other Regulations Relating to Transportation

I Research and Special Programs Administration, Department of Transportation (Parts 100—199)

II Federal Railroad Administration, Department of Transportation (Parts 200—299)

III Federal Highway Administration, Department of Transportation (Parts 300—399)

IV Coast Guard, Department of Transportation (Parts 400—499)

V National Highway Traffic Safety Administration, Department of Transportation (Parts 500—599)

VI Urban Mass Transportation Administration, Department of Transportation (Parts 600—699)

VII National Railroad Passenger Corporation (AMTRAK) (Parts 700—799)

VIII National Transportation Safety Board (Parts 800—899)

X Interstate Commerce Commission (Parts 1000—1399)

Title 50—Wildlife and Fisheries

I United States Fish and Wildlife Service, Department of the Interior (Parts 1—199)

II National Marine Fisheries Service, National Oceanic and Atmospheric Administration, Department of Commerce (Parts 200—299)

III International Regulatory Agencies (Fishing and Whaling) (Parts 300—399)

IV Joint Regulations (United States Fish and Wildlife Service, Department of the Interior and National Marine Fisheries Service, National Oceanic and Atmospheric Administration, Department of Commerce); Endangered Species Committee Regulations (Parts 400—499)

V Marine Mammal Commission (Parts 500—599)

VI Fishery Conservation and Management, National Oceanic and Atmospheric Administration, Department of Commerce (Parts 600—699)

CFR Index and Finding Aids

Subject/Agency Index

List of Agency Prepared Indexes

Parallel Tables of Statutory Authorities and Rules

Acts Requiring Publication in the Federal Register

List of CFR Titles, Chapters, Subchapters, and Parts

Alphabetical List of Agencies Appearing in the CFR

(Revised as of June 15, 1990)

Agency	CFR Title, Subtitle or Chapter
CTION	45, XII
dministrative Committee of the Federal Register	1, I
dministrative Conference of the United States	1, III
dvisory Commission on Intergovernmental Relations	5, VII
dvisory Committee on Federal Pay	5, IV
dvisory Council on Historic Preservation	36, VIII
frican Development Foundation	22, XV; 48, 57
gency for International Development	22, II; 48, 7
gricultural Marketing Service	7, I, IX, X, XI
gricultural Research Service	7, V
gricultural Stabilization and Conservation Service	7, VII
griculture Department	
Agricultural Marketing Service	7, I, IX, X, XI
Agricultural Research Service	7, V
Agricultural Stabilization and Conservation Service	7, VII
Animal and Plant Health Inspection Service	7, III; 9, I
Commodity Credit Corporation	7, XIV
Contract Appeals, Board of	7, XXIV
Cooperative State Research Service	7, XXXIV
Economic Analysis Staff	7, XXXIX
Economics Management Staff	7, XL
Economic Research Service	7, XXXVII
Energy, Office of	7, XXIX
Environmental Quality, Office of	7, XXXI
Farmers Home Administration	7, XVIII
Federal Acquisition Regulation	48, 4
Federal Crop Insurance Corporation	7, IV
Federal Grain Inspection Service	7, VIII
Finance and Management, Office of	7, XXX
Food and Nutrition Service	7, II
Food Safety and Inspection Service	9, III
Foreign Agricultural Service	7, XV
Foreign Economic Development Service	7, XXI
Forest Service	36, II
General Sales Manager, Office of	7, XXV
Grants and Program Systems, Office of	7, XXXII
Information Resources Management, Office of	7, XXVII
Inspector General, Office of	7, XXVI
International Cooperation and Development Office	7, XXII
National Agricultural Library	7, XLI
National Agricultural Statistics Service	7, XXXVI
Operations Office	7, XXVIII
Packers and Stockyards Administration	9, II
Rural Electrification Administration	7, XVII
Rural Telephone Bank	7, XVI
Secretary of Agriculture, Office of	7, Subtitle A
Soil Conservation Service	7, VI
Transportation, Office of	7, XXXIII
World Agriculture Outlook Board	7, XXXVIII
Air Force Department	32, VII
Federal Acquisition Regulation Supplement	48, 53

Agency	CFR Title, Subtitle or Chapter
Alaska Natural Gas Transportation System, Office of the Federal Inspector	10, XV
Alcohol, Tobacco and Firearms, Bureau of	27, I
AMTRAK	49, VII
American Battle Monuments Commission	36, IV
Animal and Plant Health Inspection Service	7, III; 9, I
Appalachian Regional Commission	5, IX
Architectural and Transportation Barriers Compliance Board	36, XI
Arms Control and Disarmament Agency, U.S.	22, VI
Army Department	32, V
Engineers, Corps of	33, II; 36, III
Federal Acquisition Regulation	48, 51
Benefits Review Board	20, VII
Bicentennial of the United States Constitution, Commission on the	45, XX
Bilingual Education and Minority Languages Affairs, Office of	34, V
Blind and Other Severely Handicapped, Committee for Purchase from	41, 51
Board for International Broadcasting	22, XIII
Budget, Office of Management and	5, III
Census Bureau	15, I
Central Intelligence Agency	32, XIX
Child Support Enforcement, Office of	45, III
Christopher Columbus Quincentenary Jubilee Commission	45, XXII
Civil Rights Commission	45, VII
Civil Rights, Office for (Education Department)	34, I
Claims Collection Standards, Federal	4, II
Coast Guard	33, I; 46, I, III; 49, IV
Commerce Department	44, IV
Census Bureau	15, I
Economic Affairs, Under Secretary	37, V
Economic Analysis, Bureau of	15, VIII
Economic Development Administration	13, III
Endangered Species Committee	50, IV
Export Administration Bureau	15, VII
Federal Acquisition Regulation	48, 13
Fishery Conservation and Management	50, VI
International Trade Administration	15, III; 19, III
National Bureau of Standards	15, II
National Marine Fisheries Service	50, II, IV
National Oceanic and Atmospheric Administration	15, IX; 50, II, III, IV VI
National Telecommunications and Information Administration	15, XXIII; 47, III
Patent and Trademark Office	37, I
Productivity, Technology and Innovation, Assistant Secretary for	37, IV
Secretary of Commerce, Office of	15, Subtitle A
Technology Administration	15, XI
United States Travel Service	15, XII
Commercial Space Transportation, Office of, Department of Transportation	14, III
Commission on the Bicentennial of the United States Constitution	45, XX
Committee for Purchase from the Blind and Other Severely Handicapped	41, 51
Commodity Credit Corporation	7, XIV
Commodity Futures Trading Commission	17, I
Community Planning and Development, Office of Assistant Secretary for	24, V, VI
Community Services, Office of	45, X
Comptroller of the Currency	12, I
Construction Industry Collective Bargaining Commission	29, IX
Consumer Product Safety Commission	16, II

Agency	CFR Title, Subtitle or Chapter
Contract Appeals, Board of	7, XXIV
Cooperative State Research Service	7, XXXIV
Copyright Office	37, II
Copyright Royalty Tribunal	37, III
Council on Environmental Quality	40, V
Customs Service, United States	19, I
Defense Department	32, Subtitle A
Air Force Department	32, VII
Army Department	32, V; 33, II; 36, III, 48, 51
Engineers, Corps of	33, II; 36, III
Federal Acquisition Regulation	48, 2
Navy Department	32, VI; 48, 52
Secretary of Defense, Office of	32, I
Defense Logistics Agency	32, XII
Delaware River Basin Commission	18, III
Drug Enforcement Administration	21, II
East-West Foreign Trade Board	15, XIII
Economic Affairs, Under Secretary (Commerce)	37, V
Economic Analysis, Bureau of	15, VIII
Economic Analysis Staff, Department of Agriculture	7, XXXIX
Economic Development Administration	13, III
Economics Management Staff	7, XL
Economic Research Service	7, XXXVII
Education, Department of	
Bilingual Education and Minority Languages Affairs, Office of	34, V
Civil Rights, Office for	34, I
Educational Research and Improvement, Office of	34, VII
Elementary and Secondary Education, Office of	34, II
Federal Acquisition Regulation	48, 34
Postsecondary Education, Office of	34, VI
Secretary of Education, Office of	34, Subtitle A
Special Education and Rehabilitative Services, Office of	34, III
Vocational and Adult Education, Office of	34, IV
Educational Research and Improvement, Office of	34, VII
Elementary and Secondary Education, Office of	34, II
Employees' Compensation Appeals Board	20, IV
Employees Loyalty Board, International Organizations	5, V
Employment and Training Administration	20, V
Employment Standards Administration	20, VI
Endangered Species Committee	50, IV
Energy, Department of	10, II, III, X; 41, 109
Federal Acquisition Regulation	48, 9
Federal Energy Regulatory Commission	18, I
Energy, Office of, Department of Agriculture	7, XXIX
Engineers, Corps of	33, II; 36, III
Engraving and Printing, Bureau of	31, VI
Environmental Protection Agency	40, I; 41, 115; 48, 15
Environmental Quality, Office of (Agriculture Department)	7, XXXI
Equal Employment Opportunity Commission	29, XIV
Equal Opportunity, Office of Assistant Secretary for	24, I
Executive Office of the President	3, I
Administration, Office of	5, XV
Export Administration Bureau	15, VII
Export-Import Bank of the United States	12, IV
Family Assistance, Office of	45, II
Family Support Administration	45, II, III, IV, X
Farm Credit Administration	12, VI
Farm Credit System Assistance Board	12, XIII
Farmers Home Administration	7, XVIII
Federal Acquisition Regulation	48, 1
Federal Aviation Administration	14, I
Federal Claims Collection Standards	4, II
Federal Communications Commission	47, I
Federal Contract Compliance Programs, Office of	41, 60

Agency	CFR Title, Subtitle or Chapter
Federal Crop Insurance Corporation	7, IV
Federal Deposit Insurance Corporation	12, III
Federal Election Commission	11, I
Federal Emergency Management Agency	44, I; 48, 44
Federal Energy Regulatory Commission	18, I
Federal Financial Institutions Examination Council	12, XI
Federal Financing Bank	12, VIII
Federal Grain Inspection Service	7, VIII
Federal Highway Administration	23, I, II; 49, III
Federal Home Loan Mortgage Corporation	1, IV
Federal Housing Finance Board	12, IX
Federal Information Resources Management Regulations	41, Subtitle E, Ch. 201
Federal Inspector for the Alaska Natural Gas Transportation System, Office of	10, XV
Federal Labor Relations Authority, and General Counsel of the Federal Labor Relations Authority	5, XIV; 22, XIV
Federal Law Enforcement Training Center	31, VII
Federal Maritime Commission	46, IV
Federal Mediation and Conciliation Service	29, XII
Federal Mine Safety and Health Review Commission	29, XXVII
Federal Pay, Advisory Committee on	5, IV
Federal Prison Industries, Inc.	28, III
Federal Property Management Regulations	41, 101
Federal Property Management Regulations System	41, Subtitle C
Federal Railroad Administration	49, II
Federal Register, Administrative Committee of	1, I
Federal Register, Office of	1, II
Federal Reserve System	12, II
Federal Retirement Thrift Investment Board	5, VI
Federal Service Impasses Panel	5, XIV
Federal Trade Commission	16, I
Finance and Management, Department of Agriculture	7, XXX
Fine Arts Commission	45, XXI
Fiscal Service	31, II
Fish and Wildlife Service, United States	50, I, IV
Fishery Conservation and Management	50, VI
Fishing and Whaling, International Regulatory Agencies	50, III
Food and Drug Administration	21, I
Food and Nutrition Service	7, II
Food Safety and Inspection Service	9, III
Foreign Agricultural Service	7, XV
Foreign Assets Control, Office of	31, V
Foreign Claims Settlement Commission of United States	45, V
Foreign Economic Development Service	7, XXI
Foreign Service Grievance Board	22, IX
Foreign Service Impasse Disputes Panel	22, XIV
Foreign Service Labor Relations Board	22, XIV
Foreign-Trade Zones Board	15, IV
Forest Service	36, II
General Accounting Office	4, I, II, III
General Sales Manager, Office of	7, XXV
General Services Administration	
Contract Appeals Board	48, 61
Federal Acquisition Regulation	48, 5
Federal Information Resources Management Regulations	41, Subtitle E, Ch. 201
Federal Property Management Regulations System	41, 101, 105
Payment of Expenses Connected With the Death of Certain Employees	41, 303
Reduction in Meeting and Training Allowance Payments	41, 304
Relocation Allowances	41, 302
Travel Allowances	41, 301
Geological Survey	30, IV
Government Ethics, Office of	5, XVI
Government National Mortgage Association	24, III
Grants and Program Systems, Office of	7, XXXII
Great Lakes Pilotage	46, III

Agency	CFR Title, Subtitle or Chapter
Harry S. Truman Scholarship Foundation	45, XVIII
Health and Human Services, Department of	45, Subtitle A
Child Support Enforcement, Office of	45, III
Community Services, Office of	45, X
Family Assistance, Office of	45, II
Family Support Administration	45, II, III, IV, X
Federal Acquisition Regulation	48, 3
Food and Drug Administration	21, I
Health Care Financing Administration	42, IV
Human Development Services Office	45, XIII
Inspector General, Office of	42, V
Public Health Service	42, I
Refugee Resettlement, Office of	45, IV
St. Elizabeths Hospital	42, III
Social Security Administration	20, III; 45, IV
Health Care Financing Administration	42, IV
Housing and Urban Development, Department of	
Community Planning and Development, Office of Assistant Secretary for	24, V, VI
Equal Opportunity, Office of Assistant Secretary for	24, I
Federal Acquisition Regulation	48, 24
Government National Mortgage Association	24, III
Housing—Federal Housing Commissioner, Office of Assistant Secretary for	24, II, VIII, X, XX
Inspector General, Office of	24, XII
Mortgage Insurance and Loan Programs Under Emergency Homeowners' Relief Act	24, XV
Public and Indian Housing, Office of Assistant Secretary for	24, IX
Secretary, Office of	24, Subtitle A, VII
Solar Energy and Energy Conservation Bank	24, XI
Housing—Federal Housing Commissioner, Office of Assistant Secretary for	24, II, VIII, X, XX
Human Development Services Office	45, XIII
Immigration and Naturalization Service	8, I
Indian Affairs, Bureau of	25, I
Indian Arts and Crafts Board	25, II
Information Agency, United States	22, V; 48, 19
Information Resources Management, Office of, Agriculture Department	7, XXVII
Information Security Oversight Office	32, XX
Inspector General, Office of, Agriculture Department	7, XXVI
Inspector General, Office of, Health and Human Services Department	42, V
Inspector General, Office of, Housing and Urban Development Department	24, XII
Inter-American Foundation	22, X
Intergovernmental Relations, Advisory Commission on	5, VII
Interior Department	
Endangered Species Committee	50, IV
Federal Acquisition Regulation	48, 14
Federal Property Management Regulations System	41, 114
Fish and Wildlife Service, United States	50, I, IV
Geological Survey	30, IV
Indian Affairs, Bureau of	25, I
Indian Arts and Crafts Board	25, II
Land Management Bureau	43, II
Minerals Management Service	30, II
Mines, Bureau of	30, VI
National Park Service	36, I
Reclamation Bureau	43, I
Secretary of the Interior, Office of	43, Subtitle A
Surface Mining and Reclamation Appeals, Board of	30, III
Surface Mining Reclamation and Enforcement, Office of	30, VII
United States Fish and Wildlife Service	50, I, IV
Internal Revenue Service	26, I

Agency	CFR Title, Subtitle or Chapter
International Boundary and Water Commission, United States and Mexico	22, XI
International Cooperation and Development Office, Department of Agriculture	7, XXII
International Development, Agency for	22, II
International Development Cooperation Agency	22, XII
International Development, Agency for	22, II
Overseas Private Investment Corporation	22, VII
International Joint Commission, United States and Canada	22, IV
International Organizations Employees Loyalty Board	5, V
International Regulatory Agencies (Fishing and Whaling)	50, III
International Trade Administration	15, III; 19, III
International Trade Commission, United States	19, II
Interstate Commerce Commission	49, X
Japan-United States Friendship Commission	22, XVI
Joint Board for the Enrollment of Actuaries	20, VIII
Justice Department	28, I; 41, 128
Drug Enforcement Administration	21, II
Federal Acquisition Regulation	48, 28
Federal Claims Collection Standards	4, II
Federal Prison Industries, Inc.	28, III
Foreign Claims Settlement Commission of the United States	45, V
Immigration and Naturalization Service	8, I
Offices of Independent Counsel	28, VI
Prisons, Bureau of	28, V
Labor Department	
Benefits Review Board	20, VII
Employees' Compensation Appeals Board	20, IV
Employment and Training Administration	20, V
Employment Standards Administration	20, VI
Federal Acquisition Regulation	48, 29
Federal Contract Compliance Programs, Office of	41, 60
Federal Procurement Regulations System	41, 50
Labor-Management Relations and Cooperative Programs, Bureau of	29, II
Labor-Management Standards, Office of	29, IV
Mine Safety and Health Administration	30, I
Occupational Safety and Health Administration	29, XVII
Pension and Welfare Benefits Administration	29, XXV
Public Contracts	41, 50
Secretary of Labor, Office of	29, Subtitle A
Veterans' Employment and Training, Office of the Assistant Secretary for	41, 61; 20, IX
Wage and Hour Division	29, V
Workers' Compensation Programs, Office of	20, I
Labor-Management Relations and Cooperative Programs, Bureau of	29, II
Labor-Management Standards, Office of	29, IV
Land Management, Bureau of	43, II
Legal Services Corporation	45, XVI
Library of Congress	36, VII
Copyright Office	37, II
Management and Budget, Office of	5, III
Marine Mammal Commission	50, V
Maritime Administration	46, II
Merit Systems Protection Board	5, II
Micronesian Status Negotiations, Office for	32, XXVII
Mine Safety and Health Administration	30, I
Minerals Management Service	30, II
Mines, Bureau of	30, VI
Minority Business Development Agency	15, XIV
Miscellaneous Agencies	1, IV
Monetary Offices	31, I

Agency	CFR Title, Subtitle or Chapter
Mortgage Insurance and Loan Programs Under the Emergency Homeowners' Relief Act, Department of Housing and Urban Development	24, XV
National Aeronautics and Space Administration	14, V; 48, 18
National Agricultural Library	7, XLI
National Agricultural Statistics Service	7, XXXVI
National Archives and Records Administration	36, XII
National Bureau of Standards	15, II
National Capital Planning Commission	1, IV
National Commission for Employment Policy	1, IV
National Commission on Libraries and Information Science	45, XVII
National Credit Union Administration	12, VII
National Foundation on the Arts and the Humanities	45, XI
National Highway Traffic Safety Administration	23, II, III; 49, V
National Labor Relations Board	29, I
National Marine Fisheries Service	50, II, IV
National Mediation Board	29, X
National Oceanic and Atmospheric Administration	15, IX; 50, II, III, IV, VI
National Park Service	36, I
National Railroad Adjustment Board	29, III
National Railroad Passenger Corporation (AMTRAK)	49, VII
National Science Foundation	45, VI; 48, 25
National Security Council	32, XXI
National Security Council and Office of Science and Technology Policy	47, II
National Telecommunications and Information Administration	15, XXIII; 47, III
National Transportation Safety Board	49, VIII
Navajo and Hopi Indian Relocation Commission	25, IV
Navy Department	32, VI; 48, 52
Neighborhood Reinvestment Corporation	24, XXV
Nuclear Regulatory Commission	10, I
Occupational Safety and Health Administration	29, XVII
Occupational Safety and Health Review Commission	29, XX
Office of Independent Counsel	28, VII
Offices of Independent Counsel, Department of Justice	28, VI
Operations Office, Department of Agriculture	7, XXVIII
Overseas Private Investment Corporation	22, VII
Oversight Board	12, XV
Packers and Stockyards Administration	9, II
Panama Canal Commission	48, 35
Panama Canal Regulations	35, I
Patent and Trademark Office	37, I
Payment of Expenses Connected With the Death of Certain Employees	41, 303
Peace Corps	22, III
Pennsylvania Avenue Development Corporation	36, IX
Pension and Welfare Benefits Administration, Department of Labor	29, XXV
Pension Benefit Guaranty Corporation	29, XXVI
Personnel Management, Office of	5, I; 45, VIII; 48, 17
Federal Employees Health Benefits Acquisition Regulation	48, 16
Postal Rate Commission	39, III
Postal Service, United States	39, I
Postsecondary Education, Office of	34, VI
President's Commission on White House Fellowships	1, IV
Presidential Documents	3
Prisons, Bureau of	28, V
Productivity, Technology and Innovation, Assistant Secretary (Commerce)	37, IV
Property Management Regulations System, Federal	41, Subtitle C
Public Contracts, Department of Labor	41, 50
Public Health Service	42, I
Railroad Retirement Board	20, II
Reclamation Bureau	43, I

Agency	CFR Title, Subtitle or Chapter
Reduction in Meeting and Training Allowance Payments	**41, 304**
Refugee Resettlement, Office of	**45, IV**
Regional Action Planning Commissions	**13, V**
Relocation Allowances	**41, 302**
Research and Special Programs Administration	**49, I**
Resolution Trust Corporation	**12, XVI**
Rural Electrification Administration	**7, XVII**
Rural Telephone Bank	**7, XVI**
Saint Elizabeths Hospital	**42, III**
Saint Lawrence Seaway Development Corporation	**33, IV**
Science and Technology Policy, Office of	**32, XXIV**
Science and Technology Policy, Office of, and National Security Council	**47, II**
Secret Service	**31, IV**
Securities and Exchange Commission	**17, II**
Selective Service System	**32, XVI**
Small Business Administration	**13, I; 48, 22**
Smithsonian Institution	**36, V**
Social Security Administration	**20, III; 45, IV**
Soil Conservation Service	**7, VI**
Solar Energy and Energy Conservation Bank, Department of Housing and Urban Development	**24, XI**
Soldiers' and Airmen's Home, United States	**5, XI**
Special Counsel, Office of	**5, VIII**
Special Education and Rehabilitative Services, Office of	**34, III**
State Department	**22, I**
Federal Acquisition Regulation	**48, 6**
Surface Mining and Reclamation Appeals, Board of	**30,III**
Susquehanna River Basin Commission	**18, VIII**
Technology Administration	**15, XI**
Tennessee Valley Authority	**18, XIII**
Thrift Supervision Office, Department of the Treasury	**12, V**
Trade Representative, United States, Office of	**15, XX**
Transportation, Department of	**44, IV**
Coast Guard	**33, I; 46, I, III; 49, IV**
Commercial Space Transportation, Office of	**14, III**
Contract Appeals Board	**48, 63**
Federal Acquisition Regulation	**48, 12**
Federal Aviation Administration	**14, I**
Federal Highway Administration	**23, I, II; 49, III**
Federal Railroad Administration	**49, II**
Maritime Administration	**46, II**
National Highway Traffic Safety Administration	**23, II, III; 49, V**
Research and Special Programs Administration	**49, I**
Saint Lawrence Seaway Development Corporation	**33, IV**
Secretary of Transportation, Office of	**14, II; 49, Subtitle A**
Urban Mass Transportation Administration	**49, VI**
Transportation, Office of, Department of Agriculture	**7, XXXIII**
Travel Allowance	**41, 301**
Travel Service, United States	**15, XII**
Treasury Department	**17, IV**
Alcohol, Tobacco and Firearms, Bureau of	**27, I**
Comptroller of the Currency	**12, I**
Customs Service, United States	**19, I**
Engraving and Printing, Bureau of	**31, VI**
Federal Acquisition Regulation	**48, 10**
Federal Law Enforcement Training Center	**31, VII**
Fiscal Service	**31, II**
Foreign Assets Control, Office of	**31, V**
Internal Revenue Service	**26, I**
Monetary Offices	**31, I**
Secret Service	**31, IV**
Secretary of the Treasury, Office of	**31, Subtitle A**
Thrift Supervision Office	**12, V**
United States Customs Service	**19, I**
Truman, Harry S. Scholarship Foundation	**45, XVIII**

Agency	CFR Title, Subtitle or Chapter
nited States and Canada, International Joint Commission	22, IV
nited States Arms Control and Disarmament Agency	22, VI
nited States Customs Service	19, I
nited States Fish and Wildlife Service	50, I, IV
nited States Information Agency	22, V; 48, 19
nited States International Development Cooperation Agency	22, XII
nited States International Trade Commission	19, II
nited States Postal Service	39, I
nited States Soldiers' and Airmen's Home	5, XI
nited States Trade Representative, Office of	15, XX
nited States Travel Service	15, XII
rban Mass Transportation Administration	49, VI
eterans Affairs Department	38, I; 48, 8
eterans' Employment and Training, Office of the Assistant Secretary for	41, 61; 20, IX
ice President of the United States, Office of	32, XXVIII
ocational and Adult Education, Office of	34, IV
Vage and Hour Division	29, V
Vater Resources Council	18, VI
Workers' Compensation Programs, Office of	20, I
World Agriculture Outlook Board	7, XXXVIII

Distribution Tables

The Environmental Protection Agency reorganized permit program requirements governing the Hazardous Waste Management program at 48 FR 14146, April 1, 1983. The reorganized regulations concern the National Pollutants Discharge Elimination System (NPDES), Underground Injection Control (UIC), Dredge or Fill (404), and Resource Conservation and Recovery Act (RCRA) Programs. Part 122 was distributed into applicable portions of new Parts 122, 144, 233, and 270. Part 123 was distributed into applicable portions of new Parts 123, 145, 233, and 271.

The following tables show the relationship of the old CFR sections in Parts 122 and 123 to the new CFR sections in Parts 270 and 271.

RCRA Program

Old section	New section
What are the consolidated permit regulations?	
122.1	270.1.
(a)(1)	(a)(1).
(a)(ii)–(e)	Removed.
Purpose and scope of Part 122	
122.2	270.1.
(b)	Removed.
Definitions	
122.3	270.2.
Application for a permit	
122.4	270.10.
(a)–(c)	(a)–(c).
(d)	(d).
(d)(1)–(d)(4)	270.13(a)–(d).
(d)(5)	270.13(f).
(d)(6)–(d)(8)	270.13(k)–(m).
(e)	270.10(i).
Continuation of expiring permits	
122.5	270.51.
Signatories to permit applications and reports	
122.6	270.11.
Conditions applicable to all permits	
122.7	270.30.
(1)(7)–(1)(8)	(1)(10)–(1)(11).
Establishing permit conditions	
122.8	270.32.
(a)–(b)	(a).
(b)(2)–(3)	(c)–(d).
(c)	(e).
Duration of permits	
122.9	270.50.
(b)	(a).
(d)	(b).
(e)	(c).
Schedules of compliance	
122.10	270.33.
(a)(3)–(4)	(a)(2)–(3).
Requirements for recording and reporting of monitoring results	
122.11	270.31
Consideration under Federal law	
122.12	270.3.
Effect of a permit	
122.13	270.4.
Transfer of permits	
122.14	270.40.
Modification or revocation and reissuance of permits	
122.15	270.41.
(a)(7)	(a)(5).
Termination of permits	
122.16	270.43.
Minor modifications of permits	
122.17	270.42.
(e)(1)–(8)	(e)–(n).
Noncompliance and program reporting by the Director	
122.18	270.5.
(c)	(b).
(c)(3)	(b)(2).
(e)	(c).
Confidentiality of information	
122.19	270.12.
(b)(1)	(b).
References	
122.20	270.6.
Purpose and scope of Subpart B	
122.21	270.1.
(a)	Removed.
(b)(1)–(b)(7)	(a)(3).
(b)(8)	(a)(2).
(c)–(d)	(b)–(c).
(d)(2)(v)	Removed.
(d)(2)(vi)–(viii)	(c)(2)(v)–(vii).

Old section	New section
Application for a permit	
122.22	270.10
(a)-(d)	(e)-(h).
Interim status	
122.23	270.70—270.73.
Qualifying for interim status	
(a)	270.70.
Coverage	
(b)	270.71(a)
Changes during interim status	
(c)	270.72
Interim status standards	
(d)	270.71(b).
Grounds for termination	
(e)	270.73
Contents of Part A of the RCRA permit application	
122.24	270.13
(a)	(b).
(b)	(e).
(c)-(g)	(g)-(j).
Contents of Part B of the RCRA permit application	
122.25	270.14-270.29.
(a)	270.14
(a)	(b).
(b)(1)	270.15.
(i)-(vi)	(a)-(d).
(b)(2)	270.16.
(i)-(vi)	(a)-(f).
(b)(3)	270.17.
(i)-(ix)	(a)-(i)
(b)(4)	270.18
(i)-(ix)	(a)-(i).
(b)(5)	270.19.
(i)-(iv)	(a)-(d).
(b)(6)	270.20
(i)-(viii)	(a)-(h).
(b)(7)	270.21
(i)-(ix)	(a)-(i).
(c)	270.14(c)
Permits by rule	
122.26	270.60
Short term permits	
122.27	270.61-270.63
Emergency permits	
(a)	270.61.
Hazardous waste incinerator permits	
(b)	270.62
Permits for land treatment demonstrations	
(c)	270.63.
Additional conditions applicable to all RCRA permits	
122.28	270.30.
(b)	(j)(2).
(c)	(l)(2).
(d)	(l)(6).
(e)(1)-(3)	(l)(7)-(9).
Establishing RCRA permit conditions	
122.29	270.32(a)-(b).

Old section	New section
Interim permits for UIC wells	
122.30	270.64

RCRA PROGRAM

Old section	New section
Subpart A—General Program Requirements	
Retitled: Requirements for final authorization	
Purpose and scope	
123.1	271.1.
(a)(2)-(4)	Removed.
(b)	Removed.
(c)-(k)	(b)-(i)
Note	Removed.
Definitions	
123.2	271.2
Elements of a program submission	
123.3	271.5
Program description	
123.4	271.6
(f)	Removed.
(f)(1)-(3)	(f)-(h).
(f)(4)	Removed.
(g) and (h)	Removed.
Attorney General's statement	
123.5	271.7.
(c) and (d)	Removed.
Memorandum of agreement	
123.6	271.8
(b)(1)	(b)(6).
(b)(2)	(b)(7).
(b)(3)	(b)(2).
(b)(4)	(b)(3).
(b)(5)	(b)(8).
(b)(6)	(b)(11).
(d)	Removed.
(d)(1)	(b)(4).
(d)(2)	(b)(5).
(d)(3)	(b)(9).
(d)(4)	(b)(1).
(d)(5)	(b)(10).
(e)-(g)	Removed.
Requirements for permitting	
123.7	271.14
(a)	Removed.
(a)(1)	(d).
(a)(2)	(e).
(a)(3)	(i).
(a)(4)	(k).
(a)(5)	(p).
(a)(6)	(l).
(a)(7)	(j).
(a)(8)	(b).
(a)(9)	(m).
(a)(10)	(n).
(a)(11)	(o).
(a)(12)	(c).
(a)(13)	(f).
(a)(14)-(21)	(t)-(aa).

Old section	New section
(b)	Removed.
(b)(1)	(a).
(b)(2)	(d).
(b)(3)	(g).
(b)(4)	(h).
(b)(5)	(q).
(b)(6)	(r).
(b)(7)	(i).
(b)(8)	(k).
(b)(9)	(s).
Requirements for compliance evaluation program	
123.8	271.15.
(e)	Removed.
Requirements for enforcement authority	
123.9	271.16.
(a)(3)(i)	Removed.
(a)(3)(i)(A) and (B)	(a)(3)(i) and (ii).
(a)(3)(ii)	Removed.
(a)(3)(iii)	Removed.
Sharing of information	
123.10	271.17.
Coordination with other programs	
123.11	271.18.
Approval process	
123.12	Removed.
Procedures for revision of State programs	
123.13	271.21.
(f)–(h)	Removed.
Criteria for withdrawal of State programs	
123.14	271.22.
Retitled: Procedures for withdrawing approval of State programs.	
Procedures for withdrawal of State programs	
123.15	271.23.
Retitled: Procedures for withdrawing approval of State programs.	
Subpart B—Additional Requirements for State Hazardous Waste Programs	
Sections 123.31—123.39 are now included in Subpart A, as follows:	
Retitled: Availability of final authorization	
123.31	271.3.
(a)	Removed.
(b)–(e)	(a)–(d).
Consistency	
123.32	271.4.
Requirements for identification and listing of hazardous wastes	
123.33	271.9.
Requirements for generators of hazardous wastes	
123.34	271.10.
Requirements for transporters of hazardous wastes	
123.35	271.11.
Requirements for hazardous waste management facilities	
123.36	271.12.
Requirements with respect to permits and permit applications	
123.37	271.13.
EPA review of State permits	
123.38	271.19.
Approval process	
123.39	271.20
Subpart F—Requirements for interim authorization of State hazardous waste programs	
Retitled: Subpart B—Requirements for interim authorization	
Purpose and scope	
123.121	271.121.
Schedule	
123.122	271.122.
Elements of a program submission	
123.123	271.123.
Program description	
123.124	271.124.
Attorney General's statement	
123.125	271.125.
Memorandum of agreement	
123.126	271.126.
Authorization plan	
123.127	271.127.
Program requirements for interim authorization for phase I	
123.128	271.128.
Additional program requirements for interim authorization for phase II	
123.129	271.129.
Interstate movement of hazardous waste	
123.130	271.130.
Progress reports	
123.131	271.131.
Sharing of information	
123.132	271.132.
Coordination with other programs	
123.133	271.133.
EPA review of State permits	
123.134	271.134.
Approval process	
123.135	271.135.
Withdrawal of State programs	
123.136	271.136.
Reversion of State programs	
123.137	271.137.

List of CFR Sections Affected

All changes in this volume of the Code of Federal Regulations which were made by documents published in the FEDERAL REGISTER since January 1, 1973, are enumerated in the following list. Entries indicate the nature of the changes effected. Page numbers refer to FEDERAL REGISTER pages. The user should consult the entries for chapters and parts as well as sections for revisions.

Title 40 was established at 36 FR 12213, June 29, 1971. For the period before January 1, 1973, see the "List of CFR Sections Affected, 1964-1972," which is published in a separate volume.

1973—1978

(No regulations published)

1979

40 CFR

44 FR Page

Chapter I
265 Effective date added; technical correction.......................34255

1980

40 CFR

45 FR Page

Chapter I
260 Added; eff. 8-26-80.................12724
Revised; eff. 11-19-80.................33073
Notification of impending amendments..............................55386
260.10 (a)(26) revised.....................72028
(a)(15a) and (76a) added.............76075
(a)(64a) amended; interim..........76630
(a) amended; interim..................86968
261 Added; eff. 11-19-80...............33119
Notification of impending amendments..............................55386
Comment time extended...........77435
Temporary exclusions and request for comments..................78544
261.4 (c) added..............................72028
(b)(6) added; interim...................72037
(b)(6) and (7) added; interim......76620
(b)(8) added..................................78531
(c) revised; interim.......................80287
261.5 Revised; interim..................76623
261.7 Added....................................78529

40 CFR—Continued

45 FR Page

Chapter I—Continued
261.30—261.33 (Subpart D) Comment time extended.........48142
261.30 (d) revised..........................74892
261.31 Table amended; interim...47833
Comment time extended............60903
Revised..74890
261.32 Table amended; interim...47833
Comment time extended...........60903
Table amended.............................72039
Revised..74891
261.33 (e) and (f) comment time extended...................................48142
Heading and (c) revised..............78529
Revised..78541
261 Appendixes VII and VIII amended; interim......................47834
Appendixes VII and VIII amended comment time extended...60903
Appendix II amended.................72041
Appendixes VII and VIII revised..74892
262 Added; eff. 8-26-80.................12732
Revised; eff. 11-19-80.................33142
Notification of impending amendments.............................55386
262.10 (f) added; interim..............86970
262.11 (a) revised; interim...........76624
262.12 Special procedures............85022
262.23 (c) revised; (d) added; note following text revised; interim.......................................86973
262.34 (a)(1) revised; interim.......76626
262.41 Amended...........................78529
263 Added; eff. 8-26-80.................12743
Revised; eff. 11-19-80.................33151

40 CFR—Continued

45 FR Page

Chapter I—Continued

Notification of impending amendments 55386
263.10 (c)(2) amended; interim ... 86968
263.11 Special procedures 85022
263.12 Added; interim 86968
263.20 (e) introductory text, (1), (4), and (5) revised; (f) redesignated as (g) and new (f) added; interim 86973
263.22 (b) introductory text revised; (c) and (d) redesignated as (d) and (e) and new (c) added; interim 86973
264 Added; eff. 11-19-80 33221
Effective date added; technical correction 34255
Notification of impending amendments 55386
264.1 (g)(6) added 76075
(g)(8) added; interim 76630
(g)(9) added; interim 86968
264.71 (c) added; interim 86970
(b) introductory text, (2) and (4) amended and (1), (3), and (5) revised; interim 86974
265 Added; eff. 11-19-80 33232
Notification of impending amendments 55386
265.1 (c)(10) added 76075
(c)(11) added; interim 76630
(c)(12) added; interim 86968
265.71 (c) added; interim 86970
(b) introductory text, (2) and (4) amended and (1), (3), and (5) revised; interim 86974
265.112 (a) amended 72040
265.118 (a) amended 72040
265.142 (a) amended 72040
265.144 (a) amended 72040
265.173 Amended 78529

1981

40 CFR

46 FR Page

Chapter I

260 Authority citation 27476, 35247
260.10 (a)(20) revised; interim 2348
(a) corrected 27476
260.11 Added 35247
260.20 Petitions 59537
260.21 Petitions 59537
260.22 Petitions 59537
261 Authority citation 4617, 27476, 34587, 35247, 44972, 47429, 56588

40 CFR—Continued

46 FR Page

Chapter I—Continued

Comment time extended 14125
Temporary exclusions and request for comments 17196
Information availability and request for comments 21999
Incorporation by reference approvals 47938
261.3 (a)(2) revised; interim 56588
261.4 (b) (7), (8), and (9) correctly designated 27476
(d) added; interim 47429
261.5 (e) (1) and (2) added 27476
(e) correctly designated 34587
261.6 Introductory text of (a) and (b) revised; (a)(3) added, interim 44973
261.21 (a)(1) revised; footnote 1 removed 35247
261.22 (a) (1) and (2) revised; footnotes 2 and 3 removed 35247
261.31 Revised 4617
Table corrected 27477
Petitions for temporary exemptions granted 40154
Petitions for temporary exemptions granted; request for comments 61272
261.32 Revised; eff. in part 7-16-81 4618
Correctly designated 27476
Table corrected 27477
Petitions for tempotary exemptions granted 40154
Petitions for temporary exemptions granted; request for comments 61272
261.33 (c) introductory text, (d), (e) introductory text and (f) introductory text and table amended 27477
261 Appendix VII revised 4619
Appendixes VII amended and VIII revised 27477
Appendix VIII corrected 29708
Appendix II text revised; Appendix III amended 35247
262.12 Technical correction 12207
262.34 Interpretation 60446
262.41 Suspended 8395
263.11 Technical correction 12207
264 Draft guidance availability 10911
Authority citation 27480, 35249, 55112
Meeting 30624

40 CFR—Continued

46 FR Page

Chapter I—Continued

- Incorporation by reference approvals 47938
- 264.1 (g)(9) correctly designated 27480
- 264.10 Revised; interim; eff. 7-13-81 2848
  - (b) revised; interim; eff. 7-22-81 7678
  - Comment time extended 16897
  - Effective date confirmed 38318
  - (b) effective date confirmed 38318
- 264.13 (b)(3) amended; (b)(6) added; interim; eff. 7-13-81 2848
  - (b)(6) revised; interim; eff. 7-22-81 7678
  - (b) (3) and (6) comment time extended 16897
  - (b) (3) amendment and (6) addition effective date confirmed 38318
  - (b)(6) revision effective date confirmed 38318
- 264.14 Amended; interim; eff. 7-13-81 2848
  - Comment time extended 16897
  - Effective date confirmed 38318
- 264.15 (b)(4) amended; interim; eff. 7-13-81 2848
  - (b)(4) revised; interim; eff. 7-22-81 7678
  - (b)(4) comment time extended 16897
  - (b)(4) amendment effective date confirmed 38318
  - (b)(4) revision effective date confirmed 38318
- 264.16 (a) amended; interim; eff. 7-13-81 2848
  - (a) comment time extended 16897
  - (a) effective date confirmed 38318
- 264.17 Added; interim; eff. 7-13-81 2848
  - Comment time extended 16897
  - Effective date confirmed 38318
- 264.18 Added; interim; eff. 7-13-81 2848
  - Comment time extended 16897
  - Effective date confirmed 38318
- 264.36 Removed; interim; eff. 7-13-81 2849
  - Removal comment time extended 16897
  - Removal effective date confirmed 38318
- 264.52 (b) amended 27480

40 CFR—Continued

46 FR Page

Chapter I—Continued

- 264.73 (b)(2) amended; (b) (3) through (6) revised; (b)(7) added; interim; eff. 7-13-81 2849
  - (b)(3) revised; (b) (6) and (7) redesignated as (b) (7) and (8); new (b)(6) added; interim; eff. 7-22-81 7678
  - (b) (2) through (8) comment time extended 16897
  - (b) (2) through (8) effective date confirmed 38318
  - (b) (3) and (6) through (8) effective date confirmed 38318
- 264.75 (e) revised; (f) removed; (g) and (h) added; interim; eff. 7-13-81 2849
  - Suspended 8395
  - (e) through (h) comment time extended 16897
  - (e) through (h) effective date confirmed 38318
- 264.77 Revised; interim; eff. 7-13-81 2849
  - Comment time extended 16897
  - Effective date confirmed 38318
- 264.110—264.120 (Subpart G) Added; interim; eff. 7-13-81 2849
  - Comment time extended 16897
  - Effective date confirmed 38318
- 264.112 (a) introductory text and (1) revised; interim; eff. 7-22-81 7678
  - (a) introductory and (1) effective date confirmed 38318
- 264.140—264.151 (Subpart H) Added; interim; eff. 7-13-81 2851
  - Comment time extended 16897
  - Effective date deferred in part to 10-13-81 27119
  - Effective date confirmed 38318
- 264.142 (a) revised; interim; eff. 7-22-81 7678
  - (a) effective date confirmed 38318
- 264.143 Effective date deferred to 4-1-82 48197
- 264.145 (b) heading corrected 18025
  - Effective date deferred to 4-13-82 48197
- 264.146 Effective date deferred to 4-13-82 48197
- 264.147 Effective date deferred to 4-13-82 48197
- 264.148 Effective date deferred to 4-13-82 48197
- 264.149 Correctly designated 18025

40 CFR—Continued

46 FR Page

Chapter I—Continued

Effective date deferred to 4-13-82.......48197
264.150 Effective date deferred to 4-13-82.......48197
264.151 (f) corrected.......18025
Effective date deferred to 4-13-82.......48197
264.170—264.178 (Subpart I) Added; interim; eff. 7-13-81.......2866
Comment time extended.......16897
Effective date confirmed.......38318
264.175 Revised; interim.......55112
264.190—264.199 (Subpart J) Added; interim; eff. 7-13-81.......2867
Comment time extended.......16897
Effective date confirmed.......38318
264.191 Comment removed.......35249
264.198 (b) revised; comment removed.......35249
264.220—264.230 (Subpart K) Added; interim; eff. 7-13-81.......2868
Comment time extended.......16897
Effective date confirmed.......38318
264.250—264.258 (Subpart L) Added; interim; eff. 7-13-81.......2870
Comment time extended.......16897
Effective date confirmed.......38318
264.250 Revised; interim.......55112
264.340—264.351 (Subpart O) Added; interim; eff. 7-22-81.......7678
Effective date confirmed.......38318
264 Appendixes V and VI added; interim; eff. 7-13-81.......2872
Appendixes V and VI comment time extended.......16897
Appendixes V and VI effective date confirmed.......38318
Appendix VI revised; interim.......57285
265 Draft guidance availability.......10911
Authority citation.......27480, 33507, 35249, 56596
Meetings.......30624
Incorporation by reference approvals.......47938
265.1 (c)(12) correctly designated.......27480
265.73 (b)(3) revised; eff. 7-22-81.......7680
(b)(3) effective date confirmed.......38318
265.75 Suspended.......8395
265.110—265.120 (Subpart G) Revised; interim; eff. 7-22-81.......7875
Comment time extended.......16897

40 CFR—Continued

46 FR Page

Chapter I—Continued

Effective date confirmed.......38318
265.140—265.151 (Subpart H) Revised; interim; eff. 7-22-81.......7877
Comment time extended.......16897
Effective date confirmed.......38318
265.143 Effective date deferred to 4-13-82.......48197
265.145 (f) corrected.......18025
Effective date deferred to 4-13-82.......48197
265.146 Effective date deferred to 4-13-82.......48197
265.147 Effective date deferred to 4-13-82.......48197
265.148 Effective date deferred to 4-13-82.......48197
265.149 Effective date deferred to 4-13-82.......48197
265.150 Effective date deferred to 4-13-82.......48197
265.151 Effective date deferred to 4-13-82.......48197
265.198 (b) revised; comment removed.......35249
265.312 Revised; interim.......13494
Revised.......33507
(a) revised; interim.......56596
265.314 (b)(2) revised; (b)(3) added; interim.......56596
265.316 Added; interim.......56596
265.340—265.351 (Subpart O) Revised; eff. 7-22-81.......7680
Effective date confirmed.......38318
267 Added; interim; eff. 8-13-81.......12429
Effective date confirmed.......47433

1982

40 CFR

47 FR Page

Chapter I

260 Authority citation.......32349, 41563
Meetings.......35766
Rulemaking petitions.......36162
260.10 Amended; interim; eff. date pending in part.......32349
260.11 (a) amended.......41563
260.20 Petitions.......9007
260.21 Petitions.......9007
260.22 Petitions.......9007
261.7 (b)(1) revised.......36097
261.31 Petitions for temporary exemptions granted.......52668

40 CFR—Continued

47 FR Page

Chapter I—Continued

261.32 Petitions for temporary exemptions granted...52668
262 Authority citation...1251
262.10 (b) revised...1251
262.34 Revised...1251
262.41 Compliance date deferred in part to 8-1-82...7842
Compliance dates...44938
Technical correction...46277
264 Authority citation...8306, 27531, 30447, 32349, 32384
Meetings...35766
264.1 (g)(10) added; interim...8306
Technical correction...10006
(f) revised; interim...32384
264.10 (b) revised; interim...32349
264.15 (b)(4) introductory text revised; interim...32350
264.18 (b)(1) text revised; interim...32350
264.73 (b)(6) revised; interim...32350
264.75 Compliance date deferred in part to 8-1-82...7842
Compliance dates...44738
Technical correction...46277
264.77 (c) redesignated as (b) and revised; and new (c) added; interim...32350
264.90—264.109 (Subpart F) Added; interim; eff. date pending in part...32350
264.110 (b) revised; interim...32356
264.112 (a) introductory text, and (a)(1) revised; interim...32356
264.117 (a)(1)(i) and (ii) revised; interim...32356
264.118 (a) introductory text, (a)(1), (2)(i) and (ii) revised; interim...32356
264.140 Revised...15047
(b) revised; interim...32357
264.141 Heading and (a) revised; (c) through (g) added...15047
Revised; interim...16554
264.142 Revised; eff. in part 7-6-82...15047
(a) revised; interim...32357
264.143 Revised; eff. in part 7-6-82...15047
264.144 Revised; eff. in part 7-6-82...15052
(a) revised; interim...32357
264.145 Revised; eff. in part 7-6-82...15053
Introductory text revised; interim...32357

40 CFR—Continued

47 FR Page

Chapter I—Continued

264.146 Revised; eff. in part 7-6-82...15058
264.147 Revised; interim; eff. in part 7-15-82...16554
Amended...28627
(a)(1)(ii) and (b)(1)(ii) effective date deferred...30446
(g) added...30447
264.148 Revised; eff. in part 7-6-82...15058
264.149 Revised; eff. in part 7-6-82...15058
264.150 Revised; eff. in part 7-6-82...15058
264.151 (a) through (f) revised; (h) added; eff. in part 7-6-82...15059
(g) revised; (i) and (j) added; interim (effective date pending)...16556
(g) corrected...17989
(b) and (c) corrected...19995
Amended...28267
264.340 (b) revised, (c) redesignated as (d) and revised; new (c) added...27532
264.341 (a) revised...27532
264.343 (b) and (c) revised...27532
264.344 Heading revised; (c) added...27532
264.345 (b)(4) and (c) revised...27532
264.347 (a)(1) and (b) revised; (c) redesignated as (d) and revised; new (c) added...27533
264 Appendix VI corrected; interim...953
265 Authority citation...1255, 8306, 12318, 27533
265.1 (c)(13) added; interim...8306
Technical correction...10006
265.75 Compliance date deferred in part to 8-1-82...7842
265.90 (e) added; interim...1255
265.93 (a) compliance date deferred in part to 8-1-82...7842
265.94 (a)(2)(i) compliance date deferred in part to 8-1-82...7842
265.140 Revised...15064
265.141 Heading and (a) revised; (c) through (g) added...15064
Revised; interim...16558
265.142 Revised; eff. in part 7-6-82...15064
265.143 Revised; eff. in part 7-6-82...15064

40 CFR—Continued

	47 FR Page
Chapter I—Continued	
264.220—264.230 (Subpart K) Revised; interim; eff. date pending in part	32357
264.250—264.258 (Subpart L) Revised; interim; eff. date pending in part	32359
264.270—264.282 (Subpart M) Added; interim; eff. date pending in part	32361
264.300—264.316 (Subpart N) Added; interim; eff. date pending in part	32365
264 Appendix IV added; eff. date pending in part	32367
265 Authority citation	30447, 32367
Meetings	35766
265.75 Compliance dates	44938
Technical correction	46277
265.93 (a) compliance dates	44938
(a) technical correction	46277
265.94 (a)(2)(i) compliance dates	44938
(a)(2)(i) technical correction	46277
265.144 Revised; eff. in part 7-6-82	15069
265.145 Revised; eff. in part 7-6-82	15069
265.146 Revised; eff. in part 7-6-82	15073
265.147 Revised; interim; eff. in part 7-15-82	16558
265.148 Revised; eff. in part 7-6-82	15074
265.149 Revised; eff. in part 7-6-82	15074
265.150 Revised; eff. in part 7-6-82	15074
265.151 Removed; eff. 7-6-82	15064
265.147 Amended	28627
(a)(1)(ii) and (b)(1)(ii) effective date deferred	30446
(g) added	30447
265.253 (a) revised; (c) removed; interim; eff. date pending in part	32367
265.258 Added; interim; eff. date pending in part	32368
265.272 (b), (c) and (d) revised (e) added; interim; eff. date pending in part	32368
265.276 (c)(2)(iv) revised; interim; eff. date pending in part	32368
265.279 Revised; interim; eff. date pending in part	32368

40 CFR—Continued

	47 FR Page
Chapter I—Continued	
265.280 (c) and (d) revised; (e) and (f) added; interim; eff. date pending in part	32368
265.281 Revised; interim; eff. date pending in part	32368
265.302 (a), (b) and (c) revised; interim; eff. date pending in part	32368
265.312 Technical correction	2316
(b) revised; interim	8306
Technical correction	10006
Revised; interim; eff. date pending in part	32368
265.314 Technical correction	2316
(c) revised; interim	8306
Hearing	9803
Technical correction	10006
(b) and (c) revised	12318
(a)(1) revised; interim; eff. date pending in part	32369
265.316 Technical correction	2316
265.340 (b) revised	27533
265.347 (b) removed; (c) redesignated as (b)	27533

1983

40 CFR

	48 FR Page
Chapter I	
Rule related documents	5685, 30112
260 Authority citation	2511
Rulemaking petitions	8278
260.10 Amended	2511
Rule related notice	2773
Amended	14293
260 Appendix I amended	14293
261 Authority citation	2532, 15256, 30115
261.1 (a) introductory text and (1) amended	14293
261.4 (c) amended	14293
(d) amended	30115
261.5 (b), (e) introductory text, (f), and (g)(3)(i), (ii), and (iii) amended	14294
261.6 (b) introductory text, (4) and (5) revised; interim; eff. in part 7-20-83	2532
(a) introductory text and (b)(6) amended	14294
261.7 (a)(1) and (2) amended	14294
261.20 (b) amended	14294
261.30 (c) amended	14294
261 Appendix III revised	15257

40 CFR—Continued

48 FR Page

Chapter I—Continued
262 Authority citation........3981, 13027
262.10 (d) and note amended.......14294
262.34 (b) amended........14294
262.40 (b) revised........3981
262.41 Revised........3981
(b) amended........14294
262.50 (b)(1)(iii) amended........13028
(b)(1) note amended........14294
262.51 Amended........14294
262 Appendix removed........3982
263.12 Amended........14294
264 Authority citation...2511, 3982, 30115
Guidance manual availability....36582
264.1 (g)(8) added; final........2511
(c), (d), (e), and (f) introductory text and (2) amended........14294
264.3 Amended........14294
264.10 Rule related notice........2773
264.12 (c) amended........14294
264.13 (a)(1) and comment amended........14294
264.14 (a)(2) comment amended........14294
264.15 Rule related notice........2773
(b)(4) comment amended........14294
264.16 (a)(1) comment amended........14294
264.18 Rule related notice........2773
(a) and (b)(1) comment amended........14294
(b)(2)(iii) amended........30115
264.32 (d) comment amended........14294
264.35 Comment amended........14294
264.53 (b) amended........30115
264.73 Rule related notice........2773
264.75 Heading and introductory text revised........3982
264.76 Introductory text revised........3982
264.77 Rule related notice........2773
Introductory text revised........3982
264.90—264.109 (Subpart F) Rule related notice........2773
264.93 (c) amended........14294
264.94 (c) amended........14294
264.110 Rule related notice........2773
264.112 Rule related notice........2773
(a) introductory text and (2) and (b) comment amended......14294
264.113 Comment amended........14294
264.117 Rule related notice........2773
264.118 Rule related notice........2773
(a) introductory text amended........14294
264.140 Rule related notice........2773

40 CFR—Continued

48 FR Page

Chapter I—Continued
264.142 Rule related notice........2773
264.144 Rule related notice........2773
264.145 Rule related notice........2773
264.147 (c) and (d) amended........30115
264.220—264.230 (Subpart K) Rule related notice........2773
264.250—264.258 (Subpart L) Rule related notice........2773
264.270—264.282 (Subpart M) Rule related notice........2773
264.272 (b) amended........14294
264.300—264.316 (Subpart N) Rule related notice........2773
264.340 (d) amended........14295
264.341 (a) amended........14295
(a) corrected........30115
264.342 (b)(2) amended........14295
264.343 (d) amended........14295
264.344 (a)(1), (b), and (c)(4) amended........14295
264 Appendix II removed........3982
265 Authority citation........2511, 3982, 30115, 52720
265.1 (c)(11) added; final........2511
(b) text and comment, (c)(3) comment, and (4) amended.....14295
(b) revised........52720
265.12 (b) amended........14295
265.75 Heading and introductory text revised........3982
265.76 Introductory text revised........3982
265.77 Introductory text revised........3982
265.94 (a)(2) (ii) and (iii) and (b)(2) revised........3982
265.147 (c) and (d) amended........14295
(c) and (d) corrected........30115
265.253 Rule related notice........2773
265.258 Rule related notice........2773
265.272 Rule related notice........2773
265.276 Rule related notice........2773
(a) comment amended........14295
265.279 Rule related notice........2773
265.280 Rule related notice........2773
265.281 Rule related notice........2773
265.302 Rule related notice........2773
265.312 Rule related notice........2773
265.314 Rule related notice........2773
265.430 (b) amended........30115
265 Appendix II removed........3982
270 Added........14228
Authority citation........30113
Guidance manual availability....36582
270.1 (a)(1) revised........30113

40 CFR—Continued

48 FR Page

Chapter I—Continued

270.2 Amended.......30113
270.3 Introductory text revised.......39622
270.5 (a)(1)(iii)(C), (2)(v)(C), and (b)(2) revised; (a)(3) correctly removed.......30113
270.6 (a) revised.......30113
270.10 (a), (e)(3), and (f)(3) introductory text corrected.......30114
270.11 (a)(1) text, (3) and (d) revised; (a)(1) note added.......39622
270.14 (b)(11)(iii) comment, (17), (c)(4)(ii), and (8) introductory text corrected.......30114
270.15 Introductory text corrected.......30114
270.16 Introductory text corrected.......30114
270.19 (d)(3) correctly removed.......30114
270.20 Heading corrected; (d)(5) through (8) correctly redesignated as (e) through (h).......30114
270.21 Heading corrected.......30114
270.30 (j)(2) amended; (l)(2)(ii)(B) corrected.......30114
(d) revised.......39622
270.33 (a)(3) and (b) introductory text revised.......30114
270.41 (a)(5)(iii) revised.......30114
270.51 (d) revised.......39622
270.61 (a) revised.......30114
270.64 Corrected.......30114
271 Added.......14248
State hazardous waste management programs approved.......18814, 21953, 28989, 29864, 32345, 32778, 34954, 37215, 39623, 43679, 50889, 52720, 52915, 54616, 55570, 56952
State hazardous waste management programs; application deadline extended.......27040, 28273, 31027, 32573, 32988, 33482, 33869, 33871, 34036, 34473, 34742, 34954, 35096, 35097, 35647, 36252, 44537, 44783, 48826
Authority citation.......30114
271.4 Introductory text and (a) corrected.......30114
271.10 (e) note revised.......30114
271.14 (u) and (v) corrected.......30115
271.16 (c) text revised; (c) note amended.......39622
271.20 (c) corrected.......30115

40 CFR—Continued

48 FR Page

Chapter I—Continued

271.121 (b) corrected.......30115
271.126 (a) corrected.......30115

1984

40 CFR

49 FR Page

Chapter I

260 Authority citation.......10500, 47391
Rulemaking petitions.......32766
260.10 Amended; eff. 9-20-84.......10500
Technical correction.......11180
260.11 (a) amended.......47391
260.21 Amended.......47391
261 Authority citation...5312, 19923, 23287, 37070, 44980
261.3 (c)(2) revised; eff. 12-5-84.......23287
261.4 (b)(1) revised.......44980
261.31 Table amended; interim; eff. 8-10-84.......5312
Introductory text added.......37070
261.32 Introductory text added.......37070
261.33 (e) table and (f) table amended; eff 11-12-84.......19923
Introductory text revised.......37070
261 Appendixes VII and VIII amended; eff. 8-10-84.......5312
Appendix IX added.......37070
262 Authority citation.......10500, 49571
262.20 (a) revised; eff. 9-20-84.......10500
Technical correction.......11180
262.21 Revised; eff. 9-20-84.......10500
Technical correction.......11180
262.34 (c) added.......49571
262.50 (b)(3) and (d) introductory texts revised; (b)(4) and (e) added; eff. 9-20-84.......10500
Technical correction.......11180
262 Appendix added; eff. 9-20-84.......10501
Appendix technical correction.......11180
264 Draft reports availability.......11628
265 Draft reports availability.......11628
265.1 (a) and (b) revised.......46095
270 Authority citation.......17718, 47391
270.6 (a) amended.......47391
270.70 (b) revised; eff. 10-24-84.......17718
271 State hazardous waste management programs approved.......2891,

40 CFR—Continued

49 FR Page

Chapter I—Continued

2893, 2894, 4475, 6900, 7372, 11836, 13697, 20496, 23837, 24377, 28245, 29377, 30308, 31417, 39328, 39683, 41036, 41038, 46742, 47391, 48300, 48694, 49092, 50362

State hazardous waste management programs; application deadline extended.......585, 1695, 7234, 13526, 14344, 19820, 30072, 33018

Authority citation.......10506, 21682

State hazardous waste management programs approved; eff. 7-9-84.......25855

271.6 (d) revised; eff. 9-20-84.......10506

Technical correction.......11180

271.10 (f)(1) revised; (h)(1), (2), and (3) added; eff. 9-20-84.......10506

(f)(1) corrected.......11180

271.16 (d) revised.......7372

271.21 (e) revised.......21682

271.128 (f)(2) revised.......7372

1985

40 CFR

50 FR Page

Chapter I

260 Meetings.......273

Authority citation revised...661, 14219, 18374, 28742

260.10 Amended; eff. 7-5-85.......661

260.11 (a) amended.......18374

260.22 Guidance Manual availability.......21607

(a) and (c) through (e) revised; (m) removed.......28742

260.30 Added; eff. 7-5-85.......661

(a) correctly revised.......14219

260.31 Added; eff. 7-5-85.......662

260.32 Added; eff. 7-5-85.......662

260.33 Added; eff. 7-5-85.......662

260.40 Added; eff. 7-5-85.......662

260.41 Added; eff. 7-5-85.......663

261 Authority citation...663, 1999, 14219

Technical correction.......50789

261.1 (b) revised; (c) added; eff. in part 7-5-85.......663

261.2 Revised; eff. in part 7-5-85.......664

(c)(1)(i)(B) and (2)(i)(B) revised; (c)(2)(i)(C) removed.......33542

261.3 (c)(2) revised; eff. 7-5-85.......664

(c)(2) correctly revised.......14219

40 CFR—Continued

50 FR Page

Chapter I—Continued

(c)(2)(ii)(B) added.......49202

261.4 (a) (6) and (7) added; eff. 7-5-85.......665

(a)(6) correctly revised.......14219

(b)(1) revised.......28743

261.5 (c) revised; eff. 7-5-85.......665

(e) (1) and (2) revised; eff. 7-15-85.......1999

(c) corrected.......14219

(h) and (i) redesignated as (i) and (j); (b), (f), and (g) revised; new (h) added.......28743

(b) revised; (k) added.......49202

261.6 Revised; eff. 7-5-85.......665

(a)(3)(v), (vi), and (vii) added; (c)(1) revised.......33542

Revised.......49203

261.7 (b)(1) introductory text and (3) introductory text revised; eff. 7-15-85.......1999

261.30 (d) revised; eff. 7-15-85.......2000

261.31 Table amended; eff. 7-5-85.......665

Table amended; eff. 7-15-85.......2000

Table amended.......53319

261.32 Table amended.......42942

261.33 Introductory text revised; eff. 7-5-85.......665

(f) table amended; eff. 7-15-85.......2000

Introductory text revised; OMB number.......28744

(f) table amended.......42942

261 Appendixes III, VII, and VIII amended; eff. 7-15-85.......2000

Appendix X added; eff. 7-15-85.......2001

Appendix IX amended...30274, 34692, 37370, 48910

Appendix III amended.......42942

Appendix VII amended.......42942

Appendix VIII amended.......42943

262 Authority citation revised.......28744

262.41 (a)(6) revised; (a) (7) and (8) added.......28746

262.50 (d) and (e) redesignated as (e) and (f); new (d) added; OMB number.......28746

262 Appendix amended....28744, 28745

264 Authority citation...665, 2003, 18374

264.1 (g)(2) revised; eff. 7-5-85.......665

(f)(3) added.......28746

264.11 OMB number.......4514

264.12 OMB number.......4514

40 CFR—Continued

50 FR Page

Chapter I—Continued

264.13 OMB number....4514
(b)(6) revised; OMB number.... 18374
264.14 OMB number....4514
264.15 OMB number....4514
264.16 OMB number....4514
264.17 OMB number....4514
264.18 OMB number....4514
(c) added....28746
264.51 OMB number....4514
264.52 OMB number....4514
264.53 OMB number....4514
264.54 OMB number....4514
264.56 OMB number....4514
264.70 Revised.... 28746
264.72 OMB number....4514
264.73 OMB number....4514
(b)(3) revised; OMB number.... 18374
(b)(9) and OMB number added.... 28746
264.75 OMB number....4514
264.76 OMB number....4514
264.90—264.101 (Subpart F) Heading revised.... 28746
264.90 (a) and (b) revised.... 28746
264.97 OMB number....4514
264.98 OMB number....4514
264.99 OMB number....4514
264.100 OMB number....4514
264.101 Added....28747
264.112 OMB number....4514
264.115 OMB number....4514
264.118 OMB number....4514
264.119 OMB number....4514
264.120 OMB number....4514
264.142 OMB number....4514
264.144 OMB number....4514
264.175 (c) introductory text revised; (d) added; eff. 7-15-85.... 2003
264.194 (c) redesignated as (c)(1); (c)(2) added; eff. 7-15-85....2003
264.200 Added; eff. 7-15-85....2004
264.221 OMB number....4514
(a) introductory text revised; (c), (d), and (e) redesignated as (f), (g), and (h); new (c), (d) and (e) added....28747
264.222 Removed....28748
264.226 OMB number....4514
(b)(3) removed; (b)(4) redesignated as (b)(3).... 28748
264.227 (d)(2)(i) amended.... 28748
264.228 (b)(2) and (d) removed; (b)(3) and (4) redesignated as (b)(2) and (3).... 28748
264.231 Added; eff. 7-15-85....2004

40 CFR—Continued

50 FR Page

Chapter I—Continued

264.251 OMB number....4514
264.252 Removed....28748
264.253 Removed....28748
264.254 OMB number....4514
(b)(2) removed; (b)(3) and (4) redesignated as (b)(2) and (3).... 28748
264.259 Added; eff. 7-15-85....2004
264.271 OMB number....4514
264.273 OMB number....4514
264.278 OMB number....4514
264.279 OMB number....4514
264.283 Added; eff. 7-15-85....2004
264.301 OMB number....4514
(a) introductory text revised; (c) through (g) redesignated as (f) through (j); new (c), (d), (e) and (k) added....28748
264.302 Removed....28748
264.303 (b)(2) removed; (b)(3) and (4) redesignated as (b) (2) and (3).... 28748
264.309 OMB number....4514
264.310 (b)(2) and (c) removed; (b)(3) through (6) redesignated as (b)(2) through (5).... 28748
264.314 Heading revised; (c) added.... 18374
(a) introductory text revised; (b) redesignated as (d); new (b) and (e) added; OMB number....28748
264.317 Added; eff. 7-15-85....2004
264.340 (a) revised; eff. 7-5-85.... 665
(a)(2) revised....49203
264.341 OMB number....4514
264.343 (a) revised; eff. 7-15-85....2005
264.344 OMB number....4514
264.345 OMB number....4514
264.347 OMB number....4514
265 Authority citation revised...666, 2005, 16048, 18374, 28749
Implementation and enforcement policy....38946
265.1 (c)(6) revised; eff. 7-5-85....666
(d) added; eff. 7-15-85.... 2005
(c)(4) revised.... 28749
265.12 OMB number....4514
265.13 OMB number....4514
(b)(6) revised; OMB number.... 18374
265.15 OMB number....4514
265.16 OMB number....4514
265.18 Added....28749

40 CFR—Continued

50 FR Page

Chapter I—Continued

265.51 OMB number....4514
265.52 OMB number....4514
265.53 OMB number....4514
265.54 OMB number....4514
265.56 OMB number....4514
265.71 OMB number....4514
265.72 OMB number....4514
265.73 OMB number....4514
(b)(3) revised; OMB number....18374
265.74 OMB number....4514
265.75 OMB number....4514
265.76 OMB number....4514
265.90 OMB number....4514
265.91 OMB number....4514
265.92 OMB number....4514
265.93 OMB number....4514
265.94 OMB number....4514
265.112 OMB number....4514
265.115 OMB number....4514
265.118 OMB number....4514
265.119 OMB number....4514
265.120 OMB number....4514
265.142 OMB number....4514
265.144 OMB number....4514
265.221 Added....28749
265.222 Revised; eff. 10-23-85....16048
265.229 Revised; eff. 10-23-85....16048
265.254 Added....28750
265.272 (a) revised; eff. 10-23-85....16048
265.301 Added....28750
265.302 Amended....18374
265.310 Revised; eff. 10-23-85....16048
265.314 Heading revised; (d) added....18374
(b) and (c) redesignated as (c) and (e); (a) introductory text and new (e) revised; (b) and (f) added; OMB number....28750
265.315 Revised; eff. 10-23-85....16048
265.340 (a) revised; eff. 7-5-85....666
(a)(2) revised....49203
265.352 Added; eff. 7-15-85....2005
265.370 Revised; eff. 7-5-85....666
265.383 Added; eff. 7-15-85....2005
266 Added; eff. in part 7-5-85....666
Authority citation revised....14219, 49204
266.23 Existing text designated as (a); (b) added....28750
266.30—266.35 (Subpart D) Revised....49204
266.30 (b)(3) and (4) added....14220
(b)(3) and (4) removed....33543
266.31 Added....28750
266.33 (b) revised....14220

40 CFR—Continued

50 FR Page

Chapter I—Continued

266.34 (d) added; OMB number....28751
266.40—266.44 (Subpart E) Added....49205
266.70 Effective date clarified....14216
266.80 Correctly designated; (b)(3) and (4) removed....33543
270 Authority citation revised....2006, 18315, 28751
Implementation and enforcement policy....38946
270.6 (a) amended....18375
270.10 (a), (c), (e) heading and (1), and (f)(1) and (3) revised; (j) added; (e)(4) amended; OMB number....28751
270.14 (b)(7) revised; eff. 7-15-85....2006
270.16 (g) added; eff. 7-15-85....2006
270.17 (j) added; eff. 7-15-85....2006
(c) removed; (d) through (j) redesignated as (c) through (i)....28752
270.18 (j) added; eff. 7-15-85....2006
(b) revised; (d) removed; (e) through (j) redesignated as (d) through (i); new (d) revised....28752
270.20 (i) added; eff. 7-15-85....2006
270.21 (j) added; eff. 7-15-85....2006
(h) revised....28752
270.30 (j)(2) amended....28752
270.32 (b) revised....28752
270.41 (a)(6) added....28752
270.50 (d) added....28752
270.60 (b)(3) and (c)(3)(vii)....28752
270.65 Added....28752
270.70 (a) introductory text revised; (c) added....28753
270.73 (c) through (f) added; OMB number....28753
271 State hazardous waste management programs approved....775, 1513, 1515, 2550, 2820, 3344, 3345, 3348, 3511, 3756, 3908, 5260, 9427, 11858, 35798, 40377, 40526, 42181, 46437, 47736, 47740
State hazardous waste management programs approval corrected....23008
State hazardous waste management programs; application deadline extended....2821,

40 CFR—Continued

50 FR Page

Chapter I—Continued
3342, 3343, 3347, 3758, 3759, 4213, 5259
State hazardous management programs approval withdrawn 26562
State hazardous waste management programs; notice of expiration 48406
Authority citation revised 49207
271.1 (a) and (f) revised; (j) added 28753
(j) Table 1 revised 42943
(j) Table 1 amended 49207, 53320
271.3 (a) revised 28753
271.17 (c) added 28754
271.19 (f) added 28754
271.21 (e)(1)(ii) removed; (e)(1)(iii) redesignated as (e)(1)(ii); (e)(1)(i) and (2) revised 28754
271.24 Added 28754
271.121 (a), (c)(3), and (f) revised 28754
271.122 (b)(1) revised; (b)(1) note removed 28755
271.134 (f) added 28755
271.138 Added 28755
280 Added 28755
280.1 Amended 46612
280.3 Added 46612

1986

40 CFR

51 FR Page

Chapter I
260 Authority citation revised 25471
Public briefings 39859
260.1 (a) and (b) (1) through (4) amended 40636
260.2 (b) revised 28682
(a) and (b) amended 40636
260.3 Introductory text amended 40636
260.10 Amended; eff. 9-22-86 10174
Amended; eff. 10-29-86 16443
Amended 25471
Introductory text amended 40636
260.20 (a) amended 40636
260.22 Policy and interpretation 7722
261 Petitions denied 12148
Determination 24496
Petitions denied 25887, 35355, 41100, 41313, 41315, 41317, 41319, 41321, 41490, 41493, 41501, 41616, 41617, 41620, 41624, 43712
Guidance document availability 26892
Authority citation revised 28682
Petition denial corrected 31330
Public briefings 39859
Petitions granted 41082
Intrepretation 43350
Effective date corrected 46668
Appendix IX amended 1254, 15889, 25701
Appendixes III and VII amended; eff. 8-13-86 5330
Appendixes III, VII, and VIII amended; eff. 8-25-86 6541
Appendix IX amended 25701, 25891, 29219, 29222, 32460, 37021, 37725, 41308, 41310, 41313, 41327, 41483, 41486, 41490, 41499
Appendix IX corrected 27038
Appendix IX correctly designated 27039
Appendix VIII revised 28305
Appendixes III and VII amended 37729
261.1(a)(1) revised; eff. 9-22-86 10174
(a) introductory text and (1) amended 40636
261.4 Policy and interpretation 7722
(a)(8) added 25471
(c) and (d)(1) introductory text amended 40636
261.5 Policy and interpretation 7722
Revised; eff. 9-22-86 10174
(f)(3) introductory text and (g)(3) introductory text revised 28682
(b), (c), (e) introductory text, (f)(2), and (g)(2) amended 40636
261.6 (a)(3)(i) revised 28682
(a)(3) amended; (c)(1) revised 40637
261.7 (a)(1)(ii) and (2)(ii) amended 40637
261.20 (b) amended 40636
261.30 (c) amended 40636
261.31 Table corrected 2702
Table amended; eff. 8-25-86 6541
261.32 Table amended; eff. 8-13-86 5330
Table amended 19322
Table corrected 33612

40 CFR—Continued

	51 FR Page
Chapter I—Continued	
Table amended	37729
261.33 (e) table revised	28298
(f) table amended; eff. 8-25-86	6541
Policy and interpretation	7722
(f) introductory text revised; eff. 9-22-86	10175
(f) table revised	28300
262 Authority citation revised	25472
Public briefings	39859
262.11 (d) added	40637
262.20 (e) added; eff. 9-22-86	10175
262.34 (a) introductory text revised; (d), (e), and (f) added; eff. 9-22-86	10175
(a) introductory text republished; (a)(1) and (d)(2) revised; (d) (3) and (4) redesignated as (d) (4) and (5); new (d)(3) added	25472
262.41 Policy and interpretation	7722
(a) introductory text, (3), (4), and (5) revised; (b) amended	28682
262.44 Added; eff. 9-22-86	10176
262.50 Policy and interpretation	7722
262.50—262.58 (Subpart E) Revised	28682
262.60 (Subpart F) Added	28685
262.70 (Subpart G) Added	28685
262 Appendix policy and interpretation	7722
Appendix amended	28685, 35192
263 Authority citation revised	28685, 40637
263.12 Amended	40637
263.20 (h) added; eff. 9-22-86	10176
(a), (c), (e)(2), (f)(2), and (g)(3) revised; (g)(4) added	28685
264 Authority citation revised	25472
Guidance document availability	26008
Public briefings	39859
264.1 Policy and interpretation	7722
264.13 (a)(1) and (b)(6) revised; (b)(7) added	40637
264.15 (b)(4) revised	25472
264.18 Policy and interpretation	7722
264.70 Policy and interpretation	7722
264.73 Policy and interpretation	7722
(b)(6) revised	25472

40 CFR—Continued

	51 FR Page
Chapter I—Continued	
(b)(3) revised; (b) (10) through (14) and OMB number added	40637
264.75 (h) revised; (i) and (j) added	28556
264.90—264.101 (Subpart F) Policy and interpretation	7722
264.90 Policy and interpretation	7722
264.101 Policy and interpretation	7722
264.110 (b)(3) added	25472
264.140 (b)(3) added	25472
264.110—264.120 (Subpart G) Revised; eff. 10-29-86	16444
264.141 (f) amended; eff. 10-29-86	16447
264.142 (a), (b) introductory text, and (c) revised; eff. 10-29-86	16447
264.143 (a)(10), (b)(4)(ii), (c)(5), (d)(8), (e)(5), (f)(1)(i) (B) and (D), (ii) (B) and (D), and (2), and (i) revised; eff. 10-29-86	16448
264.144 (a), (b) introductory text, and (c) revised; eff. 10-29-86	16449
264.145 Introductory text, (a)(11), (b)(4)(ii), (c)(5), (d)(9), (e)(5), (f)(1)(i) (B) and (D), (ii) (B) and (D), (2), and (i) revised; eff. 10-29-86	16449
264.147 (e) revised; eff. 10-29-86	16450
(g) redesignated as (h); new (g) added; (a)(2) and (3) and (b)(2) and (3) revised; interim	25354
264.151 (b) revised; (f) and (g) amended; eff. 10-29-86	16450
(g) revised; interim	25354
(h) redesignated as (h)(1); (h)(2) added; interim	25355
264.190—264.199 (Subpart J) Revised	25472
264.190 (b) corrected	29430
264.191 OMB number corrected	29430
264.192 (b) introductory text corrected	29430
264.193 (a)(3), (e)(1)(iv) and (2)(iii), (f)(2), and (i) (1) and (2) corrected	29430

40 CFR—Continued

51 FR Page

Chapter I—Continued

264.196 (d)(2) correctly revised; (d)(3)(iv) and (f) Note corrected....29430

264.197 (c) introductory text corrected....29430

264.221 Policy and interpretation....7722

264.222 Policy and interpretation....7722

264.226 Policy and interpretation....7722

264.227 Policy and interpretation....7722

264.228 Policy and interpretation....7722

264.252 Policy and interpretation....7722

264.253 Policy and interpretation....7722

264.254 Policy and interpretation....7722

264.301 Policy and interpretation....7722

264.302 Policy and interpretation....7722

264.303 Policy and interpretation....7722

264.310 Policy and interpretation....7722

264.314 Policy and interpretation....7722

265 Guidance document availability....26008

Public briefings....39859

265.1 Policy and interpretation....7722

265.13 (b)(6) revised....25478

(a)(1) and (b)(6) revised; (b)(7) added....40638

265.15 (b)(4) revised....25478

265.18 Policy and interpretation....7722

265.73 (b)(3) and (6) revised....25479

(b)(3) revised; (b)(8) through (12) and OMB number added....40638

265.75 (h) revised; (i) and (j) added....28556

265.110—265.120 (Subpart G) Revised; eff. 10-29-86....16451

265.110 (b)(2) revised....25479

265.140 (a) revised; eff. 10-29-86....16455

(b) revised....25479

265.141 (f) amended; eff. 10-29-86....16456

40 CFR—Continued

51 FR Page

Chapter I—Continued

265.142 (a), (b) introductory text, (c) revised; (b)(i) and (ii) redesignated as (b)(1) and (2); eff. 10-29-86....16456

265.143 (a)(10), (b)(4)(ii), (c)(8), (d)(5), (e)(1)(i) (B) and (D), (ii) (B) and (D), (2), and (h) revised; eff. 10-29-86....16456

265.144 (a), (b) introductory text, and (c) revised; eff. 10-29-86....16457

265.145 Introductory text, (a)(11), (b)(4)(ii), (c)(9), (d)(5), (e)(1)(i) (B) and (D), (ii) (B) and (D), (2), and (h) revised; eff. 10-29-86....16457

265.147 (e) revised; eff. 10-29-86....16458

(g) redesignated as (h); new (g) added; (a)(2) and (3) and (b)(2) and (3) revised; interim....25355

265.190—265.201 (Subpart J) Revised....25479

265.192 (a)(3)(i)(G) correctly revised; (a)(3)(ii) (A), (B), and (C) corrected....29430

265.193 (a)(4), (e)(2)(ii), (g) introductory text, and (i)(1) corrected....29430

265.221 Policy and interpretation....7722

265.254 Policy and interpretation....7722

265.301 Policy and interpretation....7722

265.314 Policy and interpretation....7722

(d) correctly reinstated and republished....19177

266 Guidance document availability....26892

266.23 Policy and interpretation....7722

266.31 Policy and interpretation....7722

266.34 Policy and interpretation....7722

268 Added....19305

Public briefings....39859

268.1—268.7 (Subpart A) Added....40638

268.30—268.31 (Subpart C) Added; eff. in part 11-8-88....40641

40 CFR—Continued

51 FR Page

Chapter I—Continued

268.40—268.44 (Subpart D) Added....40642

268.50 (Subpart E) Added....40642

268 Appendix I and II added....40643

270 Public briefings....39859

270.1 (c)(2)(i) revised; eff. 9-22-86....10176

270.10 Policy and interpretation....7722

(e)(1)(iii) added; eff. 9-22-86....10176

270.14 (b) (14), (15), and (16) revised; eff. in part 10-29-86....16458

(b)(5) and (13) revised....25486

(b)(21) added....40653

270.16 Revised....25486

(a) and (e) corrected....29431

270.17 Policy and interpretation....7722

270.18 Policy and interpretation....7722

270.21 Policy and interpretation....7722

270.30 Policy and interpretation....7722

270.32 Policy and interpretation....7722

(b)(1) revised....40653

270.41 Policy and interpretation....7722

270.42 (d) revised; eff. 10-29-86....16458

(o) added....40653

270.50 Policy and interpretation....7722

270.60 Policy and interpretation....7722

270.65 Policy and interpretation....7722

270.70 Policy and interpretation....7722

270.72 (d) revised; eff. 10-29-86....16459

(e) amended....25486

270.73 Policy and interpretation....7722

271 State hazardous waste management programs approved....1370, 1791, 3778-3780, 3782, 3783, 3952, 3953, 10211, 17737, 1773931618, 36804, 37729, 39752, 45320

State hazardous waste management programs; notice of expiration....4128

Public briefings....39859

40 CFR—Continued

51 FR Page

Chapter I—Continued

271.1 (j) Table 1 amended; eff. 8-13-86....5331

(j) Table 1 amended; eff. 8-25-86....6542

Policy and interpretation....7722

(j) Table 1 amended; eff. 9-22-86....10176

(j) Table 1 amended....25486, 28685

(j) Table 1 corrected....29431

(j) revised....33720

(j) Table 2 corrected....36013

(j) Table 1 amended....37729, 40653

(j) Table 2 amended....40654

271.3 Policy and interpretation....7722

(a) through (d) redesignated as (b) through (e); new (a) and (f) added....33721

271.9 Revised....33721

271.10 (e) revised....28685

(i) added....33722

271.11 (c) revised....28686

(e) added....33722

271.13 (a) revised....33722

271.17 Policy and interpretation....7722

(c) revised....33722

271.19 Policy and interpretation....7722

271.21 (b)(2) through (4) revised....7542

Policy and interpretation....7722

(e) revised; (f) and (g) added....33722

271.24 Policy and interpretation....7722

Revised....33722

271.25 Added....33723

271.121 Policy and interpretation....7722

(1) redesignated as (i)....33723

271.122 Policy and interpretation....7722

271.134 Policy and interpretation....7722

271.138 Policy and interpretation....7722

272 Added....3955

280 Policy and interpretation....7722

280.2 Interpretation....20418

280.3 (g) corrected....13497

1987

40 CFR

52 FR Page

Chapter I

260 Authority citation revised...41295, 46963
260.10 Amended....46963
260.11 (a) amended....8073
(a) introductory text revised......41295
261 Petitions denied....28696
Authority citation revised....28698
261.3 (c)(2)(ii)(B) revised....11821
261.6 (a)(3)(vii) revised....11821
261.32 Table amended....28698
261.33 Introductory text revised....21306
(c) correctly revised....26012
261 Appendix IX amended...2522, 17403, 29848, 29851
262 Authority citation revised....35898
262.42 Revised....35898
262.44 Revised....35899
262.51 Revised....25787
264 Authority citation revised... 25946, 44320, 45798, 46963
264.1 (h) correctly added....21016
264.10 (b) revised....46963
264.13 (b)(7)(iii) revised....25787
(a)(1) corrected....21016
264.15 (b)(4) amended....46963
264.18 (b)(1)(ii) introductory text revised....46963
264.73 (b)(6) revised....46963
(b)(14) corrected....21016
264.90 (d) added....46963
264.98 (h)(2), (3) introductory text and (4)(i) introductory text revised....25946
264.99 (f) revised....25946
264.100 (e) introductory text revised; (e) (1) and (2) redesignated as (e) (3) and (4); new (e) (1) and (2) added....45798
264.101 (c) added....45798
264.111 (c) revised....46963
264.112 (a)(2) revised....46963
264.114 Amended....46963
264.117 (a)(1) (i) and (ii) revised....46963
264.118 (b) (1) and (2) (i) and (ii) revised....46964
264.144 (a) introductory text revised....46964
264.147 (g)(2) revised....44320
(b) introductory text amended....46964

40 CFR—Continued

52 FR Page

Chapter I—Continued

(g) redesignation as (h); new (g) addition; (a) (2) and (3) and (b) (2) and (3) revision at 51 FR 25354 confirmed....44320
264.151 (h)(2) revised....44320
(h) redesignation as (h)(1); (h)(2) addition at 51 FR 25355 confirmed....44320
264.600—264.604 (Subpart X) Added....46964
264 Appendix IX added....25947
265 Authority citation revised...44321, 45798
265.1 (c)(2) removed....45798
(e) correctly added....21016
265.13 (b)(7)(iii) revised....25788
265.147 (g)(2) revised....44321
(g) redesignation as (h); new (g) addition; (a) (2) and (3) and (b) (2) and (3) revision at 51 FR 25355 confirmd....44321
265.228 Revised; eff. 9-15-87....8708
266 Petitions denied....2695
266.20 (a)(2) revised; (a)(3) removed....21307
266.31 (a)(1) revised....11821
266.34 (e)(1) (i) and (ii) revised; (b) amended....11822
266.35 Introductory text, (c)(3), and (d)(1) revised; (b) amended....11822
266.43 (a) introductory text revised....11822
266.44 (b) amended....11822
268 Authority citation revised....41296
268.1 (c) (2) and (3) corrected; (c) (1) and (4) correctly revised....21016
(c) (3) and (4) amended; (c)(5) added....25788
268.2 (a) corrected....21016
(a) amended; introductory text republished....25788
268.3 Revised....25788
268.4 (a) introductory text correctly revised; (a) (1), (3) introductory text, (ii) and (iii) and (4) corrected....21016
(a)(2) revised; (b) added....25788
268.5 (a)(5), (b), (e), and (h)(2)(i), (ii) and (iii) corrected; (i) correctly designated......21016
(a)(2), (h)(1) and (2)(iii) revised; (h)(2)(v) added....25788
268.6 (d), (i) and (j) corrected......21016

40 CFR—Continued

52 FR Page

Chapter I—Continued

- (k) added.......... 25789
- 268.7 (a) introductory text, (1) introductory text and (2) introductory text and (ii) and (3), (b)(2) introductory text and (ii) corrected; (a)(4) correctly added; (b) introductory text and (c) correctly revised; (b)(1) correctly designated.......... 21016
  - (a) introductory text, (1) introductory text and (ii) and (2) introductory text, (i)(B) and (ii), (b) introductory text, (1)(ii), (2) introductory text and (i) and (c) revised.......... 25789
- 268.30 (a)(3) and (c)(1) corrected; (c) (2) and (3) correctly revised.......... 21017
- 268.30 (a)(4) added.......... 25790
- 268.31 (a), (b)(1) and (c) corrected; (b) (2) and (3) correctly revised.......... 21017
- 268.32 Added.......... 25790
  - (i) amended.......... 41296
- 268.40 Revised.......... 25790
- 268.41 Heading, (a) introductory text and table corrected; (a) table heading correctly revised.......... 21017
- 268.42 (a) (1) and (2) added; (b) revised.......... 25790
- 268.44 (c) correctly redesignated as (d); new (c) correctly added.......... 21017
- 268.50 (a) introductory text, (1), and (3) and (d) corrected; (a)(2) correctly revised.......... 21017
  - (a) introductory text and (e) revised; (f) added.......... 25791
- 268 Appendix I corrected.......... 21018
  - Appendix III added.......... 25791
- 270 Authority citation revised...25953, 45798, 46965
  - State hazardous waste management programs; compliance date extended.......... 34779
- 270.1 (c) introductory text revised; (c) (5) and (6) added.......... 45798
- 270.4 (a) revised.......... 45799
- 270.6 (a) amended.......... 8073
- 270.10 (k) added; OMB number.......... 45799
- 270.14 (c) introductory text republished; (c)(7) introductory text revised; (c)(8)(v) added; OMB number.......... 23450

40 CFR—Continued

52 FR Page

Chapter I—Continued

  - (c)(4)(ii) revised.......... 25953
  - (c)(8)(v) correctly revised.......... 33936
  - (c) introductory text revised; (d) added; OMB number.......... 45799
  - (b) (5) and (13) revised.......... 46965
- 270.23 Added.......... 46965
- 270.41 (a)(3) revised.......... 45799
- 270.42 (o) (1) and (2) revised; (p) added.......... 25792
- 270.60 (b)(3) revised; OMB number.......... 45799
- 270.72 (e) revised.......... 25792
- 271 State hazardous waste management programs; schedule of compliance.......... 3651, 3652, 7412, 10568, 11263, 13673, 17403, 19139, 26013, 27198, 29522, 30681, 30682, 41996
  - State hazardous waste management programs approved.......... 19140
  - State hazardous waste management program authorizations.......... 26476, 35556, 45634, 46466
  - Authority citation revised...35899, 45799
  - State hazardous waste management program approval proceedings.......... 43903
- 271.1 (j) Tables 1 and 2 corrected.......... 21018
  - (j) Tables 1 and 2 amended.......... 25792
  - (j) Table 1 amended.......... 35899, 45799
- 272 State hazardous waste management programs approved.......... 22443
  - Comment period corrected.......... 26013
  - State hazardous waste management program authorizations.......... 27199

1988

40 CFR

53 FR Page

Chapter I

- 260.10 Amended.......... 27301, 34086
- 261 Technical correction and clarification.......... 5573
  - Strategies and procedures.......... 6822
  - Petition denial at 51 FR 41624 withdrawn; policy determination.......... 21639

40 CFR—Continued

53 FR Page

Chapter I—Continued

Authority citation revised...27163, 27301
Petitions denied..........30055
Petition denials at 52 FR 41317 and 41620 withdrawn..........38291
261.4 (e) and (f) added..........27301
(b)(7) revised..........35420
261.5 (e) Comment added; (f)(2) revised..........27163
261.32 Table amended..........35420
261.33 (e) table correctly revised..........13383
(f) table correctly revised..........13384
(f) table amended..........43881
(e) table amended..........43884
261 Appendix VII amended..........35421
Appendix VIII correctly revised..........13388
Appendix VIII amended..........43881, 43884
Appendix IX corrected..... 4850, 15170
Appendix IX amended...... 7913, 20117
Appendix IX amended..........29045, 31334, 37761, 47693
Appendix IX correctly designated..........29988
262.10 (b), (c) and (d) correctly revised..........27164
262.20 (a) amended..........45090
262.51 Correctly revised..........27164
262.70 Correctly revised..........27165
262 Appendix (Hazardous waste manifest form effectiveness extended to 12-31-88)..........37563
Appendix amended..........45091
264 Technical correction..........7740
264.1 (g)(4) correctly revised..........27165
264.13 (b)(7)(iii) revised..........31211
264.54 Amended..........37935
264.73 (b) (10) through (14) revised; (b) (15) and (16) added..........31211
264.91 (a) (1) and (2) revised..........39728
264.92 Revised..........39728
264.97 (a)(1) amended; (a)(3), (i), and (j) added; (g)(3) redesignated as (a)(1)(i); new (a)(1)(i), (g), and (h) revised... 39728
264.98 (c), (d), (f), (g), and (h) revised; (i), (j) and (k) removed..........39729

40 CFR—Continued

53 FR Page

Chapter I—Continued

264.99 (c), (d), (f), and (g) revised; (h) and (l) removed; (i), (j), and (k) redesignated as (h), (i), and (j); new (h) introductory text, and (i) introductory text revised..........39730
264.112 (c) introductory text, (1), and (2) introductory text revised..........37935
264.114 Amended..........34086
264.118 (d) introductory text, (1) and (2) introductory text revised..........37935
264.141 (h) added..........33950
264.147 (h) redesignated as (k); (a) introductory text, (2), and (3), (b) introductory text, (2), (3), and (4), (g) heading, and (1) introductory text revised; (g)(1)(ii) removed; (g)(2) (i) and (ii) amended; (a) (4) through (7), (b) (5) through (7), new (h), (i), and (j) added..........33950
264.151 (b), (h)(2), (i), and (j) amended; (g) revised; (k), (l), and (m) added..........33952
264.190 (a) amended; (b) revised..........34086
264.193 (f)(3) revised..........34086
264.196 First Note revised..........34086
265 Technical correction..........7740
Clarification..........9944
Authority citation revised..........31211
265.1 (c)(8) correctly revised..........27165
265.13 (b)(7)(iii) revised..........31211
265.73 (b) (8) through (12) revised; (b) (13) and (14) added..........31211
265.110 (b)(2) redesignated as (b)(3); new (b)(2) added..........34086
265.112 (c)(3) and (4) amended... 37935
265.114 Amended..........34086
265.118 (d) (3) and (4) amended..........37935
265.141 (h) added..........33959

40 CFR—Continued

53 FR Page

Chapter I—Continued

265.147 (h) redesignated as (k); (a) introductory text, (2), and (3), (b) introductory text, (2), (3), and (4), (g) heading and (1) introductory text revised; (g)(1)(ii) removed; (g)(2) (i) and (ii) amended; (a) (4) through (7), (b) (5) through (7), new (h), (i), and (j) added 33959
265.190 (a) amended; (b) revised 34087
265.193 (f)(3) and (g)(3)(iii) revised 34087
265.196 First Note revised 34087
265.201 (c)(3) revised 34087
266 Petitions denied 7516
266.20 (b) revised 31212
268.1 (c)(5) correctly revised 27165
(c)(3) removed; (c) (4) and (5) redesignated as (c) (3) and (4); new (c)(5) and (d) added 31212
268.4 (a)(2) revised 31212
268.5 (h)(2) introductory text revised 31212
268.6 (a) (4) and (5) added; (c) through (k) redesignated as (d) and (g) through (n); new (c), (e), and (f) added 31212
268.7 (a) introductory text, (1) introductory text, (2) introductory text, and (3), (b) introductory text and (c) revised; (a)(4) and (b) (1) and (2) redesignated as (a)(5) and (b) (4) and (5); (a) (4) and (6), new (b) (1), (2), (3), (6), (7), and (8) added; new (a)(5) revised 31213
268.8 Added 31214
268.12 Existing text designated as (a); (b), (c), and (d) added 31215
268.30 Revised 31216
268.31 Revised 31216
268.32 (d), (e), (f), (g) introductory text, and (h) revised 31216
268.33 Added 31217
268.40 (a) revised; (c) added 31217
268.41 (a) table amended 31217
268.42 (a)(2) revised 31218
268.43 Text added 31218
268.44 (h) and (l) added 31221
268.50 (d) revised 31221
270 Technical correction 7740
Authority citation revised 34087

40 CFR—Continued

53 FR Page

Chapter I—Continued

270.1 (c)(2)(ii) correctly revised 27165
270.2 Amended 34087, 37935
270.4 (a) amended 37935
270.30 (l)(2) introductory text revised 37935
270.40 Revised 37935
270.41 Heading, introductory text, and (a)(3) revised; (a)(5) removed; (a)(6) redesignated as (a)(5) 37936
270.42 Revised 37936
Appendix I added 37939
Appendix I corrected 41649
270.62 (a) introductory text and (b)(10) amended 37939
270.63 (d)(3) removed; (d) (1) and (2) revised 37939
271 State hazardous waste management program authorizations 126, 128, 16264
State hazardous waste management program authorizations corrected 127
Technical correction 244
State hazardous waste manatement programs; schedule of compliance 1358, 4850
State hazardous waste management program approval proceedings; hearing date and location corrected 3894, 20845
State hazardous waste management program authorizations 28383, 29460, 29461, 31000, 41164, 50529
Authority citation revised 31221
Hearing postponed 32899
State hazardous waste management program authorizations corrected 34758, 34759
271.1 (j) Tables 1 and 2 amended 31221
272 State hazardous waste management program authorizations 30054, 38950
280 Revised 37194
280.90—280.112 (Subpart H) Added 43370
Technical correction 44976
280.100 (c) corrected 51274
280.103 (b)(1) corrected 51274
281 Added 37241

40 CFR—Continued

53 FR
Page

Chapter I—Continued
281.37 Added..43382
  Technical correction....................44976
  (b) corrected....................................51274

1989

40 CFR

54 FR
Page

Chapter I
260 Technical correction.............26198
260.11 (a) amended...........................40266
260.22 (b) revised...............................27116
261 Administrative stay....................4021
  Petition denied..... 18503-18505, 37333
  Hazardous waste identification and listing.......................31335, 47355
261.3 (a)(2) (i) and (iii) revised....36641
261.4 (b)(7) revised 36641
261.31 Table amended.....................50977
261.32 Table amended.....................41407
261 Appendix IX amended............5085, 11712, 15938, 15939, 19893, 20589, 21951, 27169, 31680, 34180
  Appendix IX Table 2 amended..38524
  Appendix IX corrected...............39359
  Appendix IX technical correction...40239
  Appendix III Tables 2 and 3 amended...40266
  Appendix VII Table amended....41407
  Appendix III Table 1 amended..41407
  Appendix IX Table 1 amended..43821
  Appendix VII amended................50978
  Appendix VIII amended...............50978
262 Appendix (Hazardous waste manifest form effectiveness extended)...7036
264 Technical correction...26198, 36970
264.13 (a)(1), (3)(i) and (b)(1) revised...33394
264.73 Amended..............................26647
264.110—264.120 (Subpart G) Amended (OMB number)........33395
264.112 (d)(2) revised......................33394
264.113 (a) introductory text, (1)(ii)(A), (b) introductory text, (1)(ii)(A) and (c) revised; (d) and (e) added.........................33394
264.142 (a) (3) and (4) revised..... 33395
265.13 (a)(1), (3)(i) and (b)(1) revised...33396

40 CFR—Continued

54 FR
Page

Chapter I—Continued
265.73 Amended; OMB numbers...26648
265.110—265.120 (Subpart G) Amended (OMB numbers)......33397
265.112 (d)(2) revised......................33396
265.113 (a) introductory text, (1)(ii)(A), (b) introductory text, (1)(ii)(A) and (c) revised; (d) and (e) added.........................33396
265.142 (a) (3) and (4) revised..... 33397
266 Technical correction.............36970
266.20 (b) revised..............................36970
268 Administrative stay....................4021
268.1 (c) introductory text amended; (c)(3) and (4) removed; new (e) added 36970
268.5 (h)(2) revised...........................36971
268.6 (f)(1) revised..............................36971
268.7 Amended; OMB numbers...26648
  (a) (3) and (4) revised; (b)(8) amended; (c)(4) added..............36971
268.8 (a), (2), (3), and (c)(2) revised; (b)(1) and (d) amended 36971
268.12 (e) added...................................8266
  (f), (g), and (h) added..................18837
  (c) removed; (d) through (h) redesignated as (c) through (g); (b) and new (c) revised.............26648
268.32 (f) amended..........................36972
268.33 (a), (f) and (g) amended... 36972
268.34 Added......................................26648
268.41 (a) table amended............. 26649
268.42 (a) (3) and (4) added......... 26649
268.43 (a) table amended............. 18837
  (a) revised; (b) added; tables amended...26649
268.44 (h) amended..........................36972
268.50 (d) revised..............................36972
270 Technical correction.............26198
270.1 (c) introductory text amended..9607
270.10 (c) amended...........................9607
270.14 (b) (5) and (13) revised......... 617
270.29 Added..9607
270.42 Appendix I amended...9607, 33398
270.62 (d) revised...............................4288
270.72 Revised.....................................9608
270.73 (e) and (f) redesignated as (f) and (g); (e) added.............9609
271 State hazardous waste management program authorizations..1940,

40 CFR—Continued

54 FR Page

Chapter I—Continued
6290, 7417, 10986, 16361, 19184, 20849, 22278, 27644, 29557, 32973, 38993, 48243, 48608, 48889, 52800
State hazardous waste management program authorizations corrected........................13294, 27169
State hazardous waste management program; schedule of compliance........................6396, 14079
Hazardous waste program approval hearings........................15940
Corrected........................22439
Schedule of compliance........................17706
State hazardous waste management program authorizations; eff. 7-14-89........................20847
Territorial hazardous waste management program authorizations; eff. 7-21-89........................21953
State hazardous waste program approval hearings........................28677, 36972
Technical correction........................36970
State hazardous waste program compliance schedules........................53068
271.1 (j) Tables 1 and 2 amended........................26652
(j) Table 1 amended........................41407, 50978
272.700 Added........................37651
272.701 Added........................37651
272.750 Added........................34990
272.751 Added........................34990
272.1150 Added........................7421
272.1151 Added........................7421
272.1200—272.1201 (Subpart Y) Added; eff. 7-14-89........................20852
272.1300 Added........................8193
272.1301 Added........................8193
272.1800—272.1801 (Subpart KK) Revised........................27173
272.2500 Added........................7423
272.2501 Added........................7424
280.91 (a) amended........................5452
280.92 Amended; interim........................47081
280.97 (b) (1) and (2) amended; interim........................47081
280.105 (a)(2) revised; interim........................47082
281.37 Designation corrected........................38788

1990

(Regulations published from January 1, 1990 through July 1, 1990)

40 CFR

55 FR Page

Chapter I
260 Court remand response........................6640
260.10 Amended; eff. 7-23-90........................2353
260.11 (a) amended........................8949
(a) amended; eff. 12-21-90........................25493
261 Petition denied........................18876
Court remand response........................6640
Compliance waiver notices........................13480
261.4 (b)(6)(i) introductory text and (9) revised; (b)(10) added; eff. 9-25-90........................11862
(b)(10) revised; eff. 9-25-90........................26987
(b)(7) revised; eff. 7-23-90........................2353
261.6 (c)(1) revised; (c)(2)(iii) and (d) added; eff. 12-21-90........................25493
261.8 Added; eff. 9-25-90........................11862
261.11 (a)(3) introductory text revised........................18726
261.20 (b) revised........................22684
261.21 (b) revised........................22684
261.22 (b) revised........................22684
261.23 (b) revised........................22684
261.24 Revised; eff. 9-25-90........................11862
(b) introductory text revised........................22684
Table 1 amended; eff. 9-25-90........................26987
261.30 (b) revised; eff. 9-25-90........................11863
261.31 Table amended........................5342, 22684
261.32 Table amended; eff. 11-2-90........................18505
261.33 (c) revised........................22684
261 Appendix III Table 2 footnote (a) and Table 3 amended........................8950
Appendix II revised; eff. 9-25-90........................11863
Appendix IX, Table 1 amended........................11192
Appendix III Table 1 and Appendix VII Table amended; eff. 11-2-90........................18505
Appendix VII amended........................22684
Appendix IX technical correction........................23634
Appendix II revised; eff. 9-25-90........................26987
262 Court remand response........................6640
262.11 (c) introductory text revised........................22684
262.23 (e) added; eff. 7-23-90........................2354
262.34 (a)(4) revised........................22684
264 Court remand response........................6640

40 CFR—Continued

Chapter I—Continued

	55 FR Page
264.13 (a)(2) amended	22685
(b)(6) revised; eff. 12-21-90	25494
264.15 (b)(4) amended; eff. 12-21-90	25494
264.73 (b)(3) and (6) revised	25494
264.77 (c) revised; eff. 12-21-90	25494
264.113 Technical correction	25976
264.221 (c) revised	19263
264.229 Introductory text revised	22685
264.256 Introductory text revised	22685
264.281 Introductory text revised	22685
264.301 (e)(1) revised; eff. 9-25-90	11875
(c) revised	19264
264.312 (a) introductory text and (b) revised	22685
264.316 (f) added	22685
264.1030—264.1049 (Subpart AA) Added; eff. 12-21-90	25494
264.1050—264.1079 (Subpart BB) Added; eff. 12-21-90	25501
265 Court remand response	6640
265.1 (e) revised	22685
265.13 (a)(2) amended	22685
(b)(6) revised; eff. 12-21-90	25506
265.15 (b)(4) amended; eff. 12-21-90	25506
265.73 (b)(3) and (6) revised; eff. 12-21-90	25507
265.77 (d) added; eff. 12-21-90	25507
265.113 Technical correction	25976
265.221 (d)(1) revised; eff. 9-25-90	11876
265.229 Introductory text revised	22685
265.256 (a) introductory text revised	22685
265.273 (a) revised; eff. 9-25-90	11876
265.281 Introductory text revised	22686
265.312 (a) introductory text and (b) revised	22686
265.316 (f) added	22686
265.1030—265.1049 (Subpart AA) Added; eff. 12-21-90	25507
265.1050—265.1079 (Subpart BB) Added	25512
268 Court remand response	6640
268.1 (c)(3) added; (c)(5) removed	22686
268.2 Revised	22686
268.3 Revised	22686

40 CFR—Continued

Chapter I—Continued

	55 FR Page
268.5 (h)(2) introductory text corrected	23935
268.7 (a)(1)(ii), (2)(i)(B), (3)(ii), (4), (b)(4)(ii), (c) introductory text revised; (a)(7), (8), (9), new (b)(5)(iii) added; (b)(7), (c)(3), (4) removed; (b)(8) redesignated as (b)(7), (b)(5)(i) amended	22686
(a)(3) introductory text and (4) introductory text corrected	23935
268.8 (a)(2) and (3) corrected	23935
(a) Introductory text revised	22688
268.9 Added	22688
268.33 (g) correctly amended	23935
268.35 Added	22688
268.40 (a) and (c) revised	22689
268.41 (a) and table revised	22689
268.42 (a) introductory text, (2) and (b) revised; (a)(3) and (4) removed; (c), (d), and (e) added	22692
268.43 (a) and table revised; (c) added	22701
268 Appendix I removed; eff. 9-25-90	11876
Appendix IV added	22713
Appendix V added	22713
Appendix VI added	22714
Appendix VII added	22715
Appendix VIII added	22718
270 Court remand response	6640
270.14 (b)(5) amended; (b)(8)(iv), and (v) revised; (b)(8)(vi) added eff. 12-21-90	25517
270.24 Added; eff. 12-21-90	25518
270.25 Added; eff. 12-21-90	25518
270.42 Appendix I amended	22719
271 State hazardous waste management program authorizations	4606, 7318, 7320, 7896, 9128, 11015, 11193, 11909, 14280, 17273, 24232
State hazardous waste management program authorizations; eff. 7-23-90	21386
State hazardous waste program compliance schedules	5601, 9127, 9880, 14280, 22916
Court remand response	6640
State hazardous waste management program authorizations; eff. 8-24-90	25836

40 CFR—Continued

55 FR Page

Chapter I—Continued

271.1 (j) Tables 1 and 2 amended 22719

(j) Table 1 heading republished and Table 1 amended; eff. 9-25-90 11876

(j) Table 1 amended; eff. 11-2-90 18505

(j) Table 1 amended; eff. 12-21-90 25519

(j) Table 1 amended; eff. 9-25-90 26987

272 State hazardous waste management program authorizations 11910

272.1150 (a) and (b) revised; eff. 7-2-90 18112

40 CFR—Continued

55 FR Page

Chapter I—Continued

272.1151 Introductory text, (a)(1)(ii), (2)(ii), (3)(ii), (b), (c), and (d) revised; eff. 7-2-90 1813

272.1200 (a) revised; (b) amended 9881

272.1201 Revised 9881

272.2500 (a) revised 11911

272.2501 Introductory text, (a)(1)(ii), (b), (c)(2), and (d) revised 11911

280.40 (c) amended 17753

(c) amended 23738

280.91 (c) revised; interim 18567

281 State underground storage tank program authorizations; eff. 7-11-90 23549

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